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VAN VRAKEN, N.Y.

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To Improve the Soil and the Mind.

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No. IX.

The Improvement of Grass Lands.

In the improvement of grass land, the first thing to be done, is the removal of all stagnant water by means of thorough underdraining. Unless this is accomplished, the best of cultivation, seeding and top-dressing, will fail to produce their full effect.

When our meadows fail, from whatever cause, it is generally advisable to plow them up in the fall, and cultivate them thoroughly for two or three years, with corn, potatoes, or other root crops, manuring them heavily, and seeding down again when the white daisy and other weeds have been destroyed, and the old turf has entirely disappeared. If, however, the land is so low that it is not desirable to cultivate it with other crops, it may be plowed up in August, and well worked with the cultivator, harrow, &c., till a fine "seed bed" is obtained, not forgetting to give it a good coat of manure;—if long manure, plow it in; if well decomposed compost, which is best, spread it on the furrows, harrow and cultivate till it is thoroughly incorporated with the soil. About the first of September, sow it with artificial grasses, and be not sparing of the seed; half a bushel of Timothy and half a bushel of red-top, or other grasses in proportion, is none too much. Generally, by so doing, a fair crop of good hay is obtained the next season. This method of re-stocking worn out meadows has been practiced with much success by many excellent farmers in New-England. Some of them recommend sowing clover with the Timothy and red top, in the fall, but we should be inclined to fear it would seldom survive our hard winters; unless, indeed it were sown quite early, say in July or first of August.

We have seen meadows greatly improved by simply scurfing the sward in the fall by means of a heavy harrow, and then sowing from eight to sixteen quarts of Timothy, red-top and rye-grass seeds, equal parts, to the acre. In the case alluded to, heavy rain followed immediately after the sowing, and the seeds were not harrowed in at all, but generally it would be well to cover them slightly with a light harrow. We need hardly add that a good coat of compost, spread on the sward before the first harrowing, would be of much benefit.

The best time to top-dress all meadows that are not of too light or porous a nature, is in the fall. In England nothing was more common, twenty years ago, than

to make a compost with barn-yard manure and old headlands, and after it was well decomposed, to cart it on to the meadows during the winter months. The effect was very beneficial. Unmixed manure was seldom used. Since the introduction of Peruvian guano, however, the practice of composting old headlands has, to some extent, given way to top-dressing with light artificial manures. Guano gives a better immediate effect at a much less cost; but whether it is ultimately more profitable is an open question. With hay at from \$15 to \$20 per ton, there can be no doubt that a judicious application of good Peruvian guano, in the fall, or *very early* in the spring, will give sufficient increase, for a few years at least, to pay for the guano and have a reasonable profit. The constant exportation of hay draws heavily on the soil for potash, and as *guano contains very little potash*, (not more than 2 per cent) it may reasonably be supposed that to manure with guano alone will soon leave the soil deficient of available potash.* If such should be the case, however, an application of wood ashes occasionally would supply the deficiency.

Aside from underdraining, there is no improvement better worthy the attention of American agriculturists than that of irrigating grass land. Who that has ever seen the beautiful water meadows of Gloucester, Hampshire, Devon, and other English Counties, can doubt that we have in irrigation a grand means of increasing the production of our grass land, and through them, by keeping an additional quantity of stock, of raising the general fertility of the farm? If Signor J. DEVINCENZI, secretary of the Italian committee on Irrigation, could say that "irrigation as an art is neglected in England," what would he say of this country? A perusal of his "Report on Milanese Agriculture," showing the astonishing effect of irrigation in Lower Lombardy, would satisfy the most sceptical that we have in

* One of our Boston contemporaries, a week or two since, gravely told its readers that "Grass abstracts from the soil no potash. It contains, carbon, 45 per cent.; hydrogen, 5; oxygen, 32; nitrogen, 1½, and ashes, 9 per cent." The writer could hardly have shot farther from the mark had he tried. Except potatoes, turnips, and the leguminous plants, there are few crops that abstract so much potash from the soil as "grass." One-fifth of the "ashes" referred to is potash, which was doubtless abstracted from the soil. We would recommend our friend to read carefully some such work as "JOHNSTON's Elements of Agricultural Chemistry and Geology," edited by SIMON BROWN and published by C. M. SAXTON & CO.

the water now running uselessly down our hill-sides a great and perpetual source of wealth. We have enterprising farmers who raise water a considerable height by means of hydraulic rams, windmills, &c., for irrigating purposes; and if it will pay them to do so, how much more profitable would it be for those so located, that an abundance of water can be obtained by damming up a stream and diverting it from its natural course by means of artificial ditches, sluices, &c.?

The Hon. A. B. DICKINSON, at the last Annual Meeting of the New-York State Ag. Society, stated that he had found hard water, containing much lime, far less valuable for irrigating than soft water. This is quite probable, since the soft or rain water contains much more ammonia than the hard water; nevertheless the water running over the calcareous soils of Hampshire in England, and which is consequently very *hard*, is used with great success. It is generally supposed that water productive of fish, particularly trout, is well suited for irrigating, for the reason that the substances which supply the young fry with food, are also beneficial to plants, while mineral matters which are noxious to fish, are also injurious to vegetation. For grass land, experience seems to indicate that clear water is preferable to that which is turbid from containing organic or inorganic substances.

But although, as a recent writer says, the "clearer the water the better," an admixture of animal excrements adds greatly to its fertilizing properties, and there can be no doubt that there are many farms so situated that a stream of water could be turned through the barn-yard, and used to convey a considerable portion of the manure to the land at a slight expense. In the dairy districts of Devonshire and Cheshire, and some parts of Switzerland, this practice is adopted to some extent with advantage.

We cannot close our eyes to the fact that many have tried irrigation to some extent with but partial success; and there is a very general impression that irrigation is not adapted to our climate and circumstances. In cases of failure, the trials, so far as they have come under our observation, are very imperfect, and generally manifest entire ignorance of the laws of vegetable growth, on the part of the experimenters. The fundamental error usually lies in imperfect drainage. The water is suffered to become stagnant on the land, and, of course, under such circumstances would be likely to do as much harm as good. In nine cases out of ten, it is impossible to improve our grass lands to any great extent without thorough underdraining. This secured, there is hardly any limit to the crops of grass which may be obtained by good seeding, top-dressing and irrigation. In Lombardy, "they cut eight or nine crops yearly from a meadow." This seems hardly possible, though the statement rests on good authority. In the colder climate of England, irrigation has done wonders. In the poetical language of PHILIP PUSEY: "A slight film of water trickling over the surface—for it must not stagnate—rouses the sleeping grass, tinges it with living green amidst snows and frosts, and brings forth a luxuriant crop in early spring, just when it is most

wanted, while other meadows are still bare and brown. It is a cheerful sight to see the wild birds haunting these green spots among the hoar-frosts of Christmas; or the lambs, with their mothers, folded on them in March. A water-meadow is the triumph of agricultural art, changing, as it does, the very seasons."

Steam for Threshing, Sawing, &c.

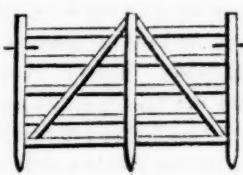
MESSRS. EDITORS—I see in your CULTIVATOR of July, an inquiry as to whether steam has ever been employed for threshing in this country. Last year I put up a stationary steam engine for that purpose, and cutting hay, straw, &c. The engine is seventy feet from the barn; has an under-ground shaft, and drives the thresher with a five-inch belt that comes up through the barn floor. It is an eight-horse power, with an eight-inch cylinder, and one foot six inches stroke. Boiler 18 feet long, with a return flue, made by Wm. Kidd, Rochester, N. Y., and costs about \$100 per horse. It will take from ten to twelve sticks of hard wood to get up steam of 85 lbs. the square inch.

I use one of Hall's eight horse threshers, and find that steam drives it better than any horse power ever can, as there is no jerking, and you can feed light, heavy, or even stop feeding, at will, without having the machine run up to such a high rate of speed as with horses.

I cut all my hay, and use one of Daniels & Raymond's straw and stalk cutters, which is certainly the best in my opinion I have ever come across, for they are put together in a strong and efficient manner, to stand a good speed.

The engine also drives one of Emery's cross-cut saws (but altered to run with a belt,) for the purpose of cutting logs into firing, which saves nearly all the chopping, and a circular cross-cut saw for cord wood. These two are out-side the building.

Inside is another circular saw for slitting up black ash plank to make a movable hurdle fence eight ft.



long—posts 4 ft. 7 in. high by 2½ in. square—rails 2½ by ½ inches, mortised thro' the posts and secured in them by 2½ pressed nails. The cross pieces are secured by ½ nails, but are clenched on one side. The hurdles (or frames as they are called in Scotland,) are put up by driving the stakes in the ground and fastening them at top by a pin. I am using over 350 of these, and find that if cattle are not very breachy, they answer well. I have sold 250 at 75 cents each. Two men with a team will take up 80 rods of this fence and put it up again in half a day.

An engine is also useful in turning a grindstone and feed mill. E. POORE. *Tangly Farm, Coburg, C. W., July 23, 1855.*

SCOURS IN CATTLE.—A correspondent writes that he had a cow which scoured badly, and thinking "she might as well die one way as another," he gave her "a handful of saltpetre," and she got better forthwith, and is now as well as ever.

On Hay-Making.

Although my harvest experience is late for this season, I send an account of 38 tons of hay, got in in very catchy weather, which may be of advantage for some one next year, who has 38 tons of hay to get in.

MOWING MACHINES.—Every body now has a mower, or ought to have one. Mine is one of KETCHUM's, a machine which does its work well, but is liable to get out of order. The motion on the crank shaft, shakes off the nuts, and every part of the machinery is difficult to get at, the machine requiring to be taken to pieces to repair it. In mine, the crank shaft had a flaw in it, and fearing it would break, as it afterwards did, I procured another at Mayher's in New York, which cost me \$4 for a piece of iron not worth \$1. Guards, knives, and every thing, cost in proportion. If makers of these machines charge us farmers 200 per cent profit on the machines, the replacing defective parts should be made at less cost. The machine I have, in heavy grass takes 3 horses. ALLEN of New York, has made a decided improvement. His machine requires less speed; all the gearing is in sight, to be oiled and examined; it cuts 5 inches wider, and 2 horses worked it easier than 3 did Ketchum's, doing as good work. They all work fast enough. With Ketchum's, I cut an acre in 52 minutes, adding 15 required for repairs, a key in my new crank shaft falling out, the machinist having put it in from the lower side of the wheel.

IMPORTANCE OF HAY CAPS.—One of my new arrangements for hay, which, in a showery time, has proved very profitable, is my hay caps. Four yards of muslin, sewed through the middle with a *double* seam, and hemmed outside across the ends, makes a pie-e 2 yards square. Put these on the cocks, which should be about 100 lbs.; draw out a wisp of hay at each corner, twist it in a rope, and give one turn round the corner of the cloth to prevent its blowing away. On Saturday I had 4 tons out in a rain, in which 2½ inches of water fell; on Sunday it was not touched, and on Monday after breakfast the cocks were only turned over to dry the dampness on the bottom, and the hay drawn in. The muslin by the piece costs 6½ cents; they can be made for six cents, so the cost of 100 is \$32. Farmers do not calculate the damage done their hay by a soaking wet. Should they ask their wives how it would answer to dry the tea leaves after using them, and try them for tomorrow's breakfast, they might get some information similar to what a horse or a cow would give if they could speak as to the value of wetted hay. Since I commenced haying, we have had frequent showers, and two heavy rains, and my rain gauge shows four inches and eight-tenths of rain fallen since the 6th. If the hay is put up green, it can sweat a little in the cock. Open it for an hour, put it up again, cover it, and if you do not want your covers let it stand. It comes in, *dried green*, and in perfect order.

In 13 working days, with an average of about 4½ hands, I have taken in 38 tons. My last 4 tons have been out 5 days, on every day of which, except Sun-

day, we have had rain. It was heavy timothy, and 2 cocks, of which the covers blew off, were entirely spoiled—the residue in good order. W. H. DENNING. Fishkill Larding, July 25, 1855.

Green Clover Hay,

STORED ON THE SECOND DAY AFTER CUTTING.

In the years 1834—6, I occupied a four and a half acre lot, in the town of Otsego, Otsego Co., N. Y., which was seeded with Red Clover, and was devoted to the purpose of hay. I was dependant for farm labor on the neighboring farmers, who employed, at that time, little foreign help, the consequence was that I was obliged to cut my hay before the ordinary season of haying, or I could not get assistance. My hay was stored in a 30 by 40 ft. barn, in one corner at the end of the stable, and on the side of a threshing floor, in what is familiarly called a bay. It extended some three ft. below the level of the floor, and was probably 16 by 12. ft.

I usually cut my hay one day and mowed it the next, much to the surprise of my neighbors who thought it impossible that it could thus be kept fit for future use. Yet no hay ever kept more satisfactorily, or sold at a better price to my neighbors. The mode of procedure was simply this. The clover, just in the freshest bloom, was cut in the forenoon, cured, to a certain extent, through the day by spreading and turning, and was always, in ordinary good weather, got into winrow or cock before evening. On the succeeding day, the cocks were turned over, and occasionally merely split into two. Before evening all was stored in the barn.

And now for the mode of mowing. A hole was made in the foundation wall of the barn on two sides of the barn; rails and boards were then laid at the bottom supported on stones. Thus there was a good ventilation under the mow. On the center of the floor of the mow, over a hole, I set a long bag filled with hay; around this the hay was mowed, each considerable layer being sprinkled with salt. Thus I continued to do, drawing the bag upward until the mow was finished at the height of some 16 ft.; over the top of the mow was laid any dry rubbish, such as straw or poor hay, such as I could most readily command. Into this covering, which needed to be pretty thick, rose all the steam of the imperfectly dried hay beneath, converting this covering into a wet mass fit only for manure. This hay, cut so green, and cured with so little exposure to sun and wind, was very bright, and crumbled very little. Hence my horse and cow ate it without an unsightly remainder of dry and naked stalks.

Might not this plan be tried with equal success with hay composed of Timothy or red top, or both?

The present state of the weather is worse than any thing of the sort I remember ever to have seen,—worse certainly than any thing of the sort since 1829. The July of 1851, was however, a near approach to it, as it exhibited nine rainy days, besides rain on three other occasions in the night. From the middle of July to 21st of August 1850, was also very similar weather, but yet with some intervals of good hay weather. In such a state of the weather some wholesale but safe mode of storing hay seems desirable. C. E. GOODRICH. Utica, July 26th, 1855.

Works on American Agriculture.

MESSRS. EDITORS—I have been a book-keeper for twelve years, and am now trying to save sufficient from my salary to purchase a farm, when I shall lay aside the *pen* for the *plow*. Although I worked on a farm when a boy, I am now, of course, considerably behind the age in nearly all things which pertain to agriculture; therefore I am desirous of commencing a course of reading which will fit me for the avocation of a farmer. Not knowing how to commence, and after giving the matter some thought, I concluded to address you, and ask for a list of such works as will prove beneficial to me, and from which I can derive such instruction as will be useful when I am placed on a farm. Will you be so kind as to send me a list of such works, in the order in which they should be perused, for which I shall be very grateful. J. C. C.

How can one who has no knowledge of the theory or practice of agriculture, learn to be a good farmer? Such is the question our correspondent propounds to us. We must confess it is one we cannot satisfactorily answer. We should recommend a young man, with a good education, and some knowledge of the physical sciences, and who had an ardent love for rural pursuits, to apprentice himself for a few years to some intelligent practical farmer; but in the present case this is out of the question, and the mysteries of agriculture must be acquired by "dear bought experience," and by a careful study of the writings of practical and theoretical farmers. Agriculture cannot be learned from books alone, any more than we can learn to shoe a horse or analyze a soil by reading treatises on blacksmithing or chemistry. It is true the right kind of books would be valuable aids, but unfortunately we have few that do not contain many recommendations that would lead an inexperienced American farmer astray. We might recommend you to read Stephens' Book of the Farm, Thaer's Principles of Agriculture, Boussingault's Rural Economy, Loudon's, Johnson's and Morton's Encyclopedias, Lowe's Practical Agriculture, and a number of similar works, all excellent of their kind, yet the methods of cultivation, seeding, harvesting, &c., detailed, cannot be adopted in this country. In fact, it requires considerable practical and theoretical knowledge of American Agriculture before we can derive any material advantage from their perusal. We need sufficient knowledge to grasp the *principles* underlying those systems of European agriculture, which long experience has established, before we can safely attempt to adopt in our climate and circumstances, even a modification of European practices. An *American Book of the Farm*, and a *Cyclopedia of American Agriculture* have yet to be written. Our principal books on agriculture are little else than reprints of English works. It is difficult to find one that is not more or less made up from the writings of European authors, which, however excellent in themselves, are not adapted to this country.

Even our *original* American works on agriculture, therefore, cannot be implicitly relied upon by the student unacquainted with practical agriculture. He must have a certain amount of knowledge in order to sift out the chaff from the wheat. The same may be

said of the reprints of European works with which our agricultural literature is flooded. It is true they are sometimes "edited" by gentlemen capable of rendering them valuable aids to American farmers, but, as a general thing, the labor has been hurriedly and imperfectly performed. In some cases it has been confined to writing a preface, congratulating the sovereign people on the superiority of their glorious institutions, or to making out an index. Our agricultural periodicals are much better, though there is much in them that will not stand the test of practical application.

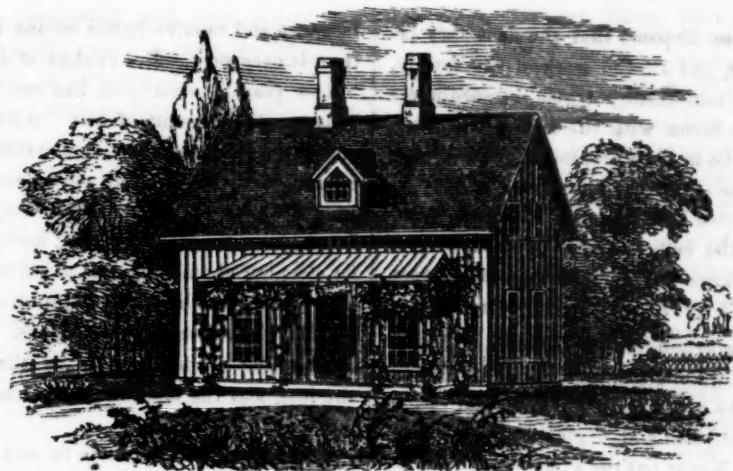
Our correspondent will think we are portraying rather a dark picture, and affording him little encouragement for the prosecution of agricultural knowledge; but we would not dissuade him from his purpose; far from it; agriculture is a noble calling and the difficulties to be encountered in its pursuit should only serve to quicken our zeal and stimulate to persevering efforts. Many of the best farmers in every age and country have been educated in other professions. They brought cultivated and enthusiastic minds, untrammelled by prejudice, to the work, and though perhaps, for some time their numerous mistakes were the laughing stock of their practical neighbors, yet they acquired in time skill in farming manipulations conjoined with an enlightened experience, that won the respect and admiration of all.

We would say then, to our friend, take these noble men for an example, read carefully a few of the best treatises on agriculture at command, but do not be too credulous, *think for yourself*, try to comprehend the *principles* of well established practices, and upon them construct a system better adapted to your particular circumstances.

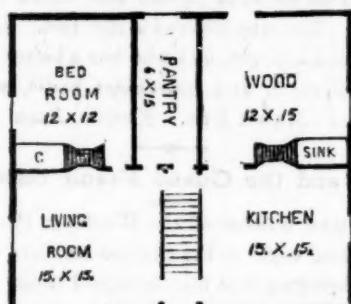
The following works may be read with advantage in the order named; Nash's *Progressive Farmer*, Norton's *Elements of Scientific Agriculture*, Dana's *Muck Manual*, Stockhardt's *Chemical Field Lectures*, Johnston's *Agricultural Chemistry and Geology*, Thaer's *Principles of Agriculture* and Boussingault's *Rural Economy*. As books of reference we may name Allen's *American Farm Book*, and Morton's *Cyclopedia of Agriculture*. The former as being to some extent American, the latter as containing the more recent practices of British Agriculture. The list might be advantageously extended. One or two good, reliable agricultural papers will of course pay you weekly or monthly visits; and if you had a set of the back volumes of the *Cultivator* or of the *New England Farmer*, or even of the *Genesee Farmer*, you would find them exceedingly useful. Indeed, we consider them indispensable to a good agricultural library.

Farm House.

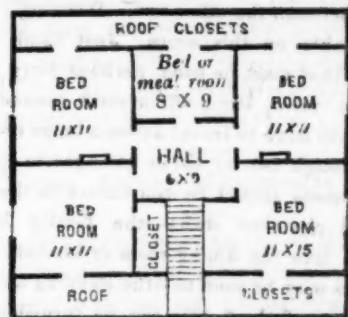
The following plan of a farm house, furnished by a correspondent, contains many conveniences compactly arranged together. The absence of a *parlor* will strike some eyes as an obvious deficiency; but for a farmer of moderate means, the less that is kept for show and the more for comfort and convenience, the better. A



FARM HOUSE.



Ground Plan—30 by 31 feet.



Second Floor.

neighbor of ours, who is a farmer of good means and superior intelligence, has reserved one room as a parlor—but it has been kept shut up as dead property, and to our certain knowledge, has been used but twice in fifteen years,—once for a quilting party, and once for a wedding. The owner, to have more room, added in the first place a kitchen to his main building, so as to have a dining or living room, and "save" his parlor; next, the kitchen was converted into a dining room, and the wood house was lathed and plastered for a kitchen; and several successive additions have been since made—the parlor remaining in solitary loneliness. Now, if this room, *kept for show, but never made visible*, with its furniture, cost \$500, then its use once in seven years, must cost, with interest, decay, &c., about *four hundred dollars* for each occasion. At the same time there are some serious domestic inconveniences that might be remedied for a fourth part that sum, and some glaring exceptions to neatness outside, which a tenth part would remove. We have made a little alteration in the plan, by substituting one large window, for the two small ones on the front side of the kitchen and dining room; and we have *added a perspective view* of the house, showing the addition of a dormer window for lighting the stairs and above; another to be placed opposite on the other side, to light the meal room. Without these additions, the plan would obviously be quite defective.

Such a house as this, made as we have represented in the perspective view, without any ornamental appendages, would probably vary in cost with the cost of

materials in different localities, from nine to twelve hundred dollars.

EDS. CO. GENTLEMAN—If there is one thing of more consequence in the construction and arrangement of the farmer's house than another, that thing is **CONVENIENCE**—for just so long as labor, sweat, and toil, are the inheritance of our race, just so long will physical comfort, and the means for its creation and preservation, rank high among the aids to human welfare and happiness. If this be so, the conclusion is plain and easy to be understood, that, as the duties and labors of the farmer's wife are mostly in the house, it becomes a matter of the highest interest that its internal arrangement should be such as to enable her to provide for the wants of her household with the least possible amount of labor.

All are ready to admit that there is a vast difference between a convenient and an inconvenient house, and from my own observation I am satisfied that hundreds of American women have been hurried prematurely to the grave in consequence of badly constructed and poorly furnished houses.

But, what is necessary to convenience in a house? According to my ideas, there should be at least four rooms upon one floor—a kitchen, a dining or living room, a pantry, and the family bed-room—and perhaps I should have added, a wood-house, especially for the colder parts of the country. These are all rooms that come in use every day, and many times a day, and it is upon their proper disposition and arrangement, that the comfort of the housewife depends.

These should all be so disposed that the necessary labor of getting meals, and all the work of the family, can be done without unnecessary travel, or encumbering one part of the house with the dirt of the other. The kitchen should be in close proximity to the dining room, the pantry, the stairs and the wood. The pantry should be accessible both from the dining-room and kitchen, and near the cellar stairs; it should be of good size, not very large nor very small, and have a northern exposure—6 by 12 is a good size and shape.

You will not be surprised, Messrs. Editors, who know what good living is, when I say that the pantry is second to no room in the house in importance, and yet, of all others, is most despised and neglected by our fashionable designers. Never put the kitchen between the pantry and dining-room, but always, if possible, place the pantry between the other two. Downing's designs are abominable on this score. Just think of having a room that must be used, perhaps forty times a day for forty years, stuck off in some remote corner, where you will have to travel across a large room, and, perhaps, through two or three passages to get at it. The dining-room should be convenient to the pantry, kitchen and chamber stairs—the family bed-room should open into the dining-room or kitchen, in order that the fires may be seen to—the sleeping apartments for the balance of the family can be furnished in the chamber.

Halls and parlors are luxurions nuisances, only to be indulged in by those living near or in towns, or by those of ample means and in the frequent reception of much company. They generally create a great deal of waste room, and spoil as much more. Every thing about the farmer's house should be plain and substantial, and expressive of his every-day life.

And another thing,—when he builds a house he should build what he needs at once, and steadily resist all temptation to stick on little seven by nine additions—avoid all gingerbread or other flimsy decorations, and build a little too small rather than too large—furnish the house with every possible contrivance for the easy performance of the every day labors; and my word for it, no man need be troubled with a scolding wife, or she with a worn out, broken down, jaded constitution.

Enclosed I send you a plan of a "Farm House," which will illustrate my ideas, and if built would cost, almost anywhere, as much money as nine-tenths of our farmers have to spare, and will furnish them all the room they need. Of course those of ample means, and peculiar social wants, should build houses in accordance therewith; but I believe our people spend too much money on houses, as a general thing. We miss very much of happiness by creating and undertaking to supply too many fictitious wants. The farmer's life is necessarily simple, and he should never be caught hankering after that which is inappropriate to his station.

One thing more—buildings cost much money, and are always a constant drain upon the purse for main-

tainance and repair—hence no one should spend more than is necessary. But enough of this now.

The plan I send you has one merit—regularity. This ensures economy of cost. All the doors, windows, and chimneys, are in the right place, so that internal convenience, and external appearance will harmonize. It is designed for a one story house, with a steep roof. Its great width allows of this, and gives ample room for sleeping chambers, and a garret seven feet high above the chamber, which can be used for rubbish, or for cheap beds for harvest hands. The hall at the head of the stairs is lighted by the large window at the foot, and the meal room may be lighted by a window in the door.

This house can be made to suit almost any exposure, and the outside doors should be placed accordingly. An arbor veranda should run round the entire buildings. The area covered is 990 feet. How many farmers need a larger, and who has a better arranged, more economical, and convenient house, within the same area? *Hawk Eye. Keokuk, Iowa.*

Mapes and the Guano Fraud once more.

The August number of the *Working Farmer*, contains MAPES' reply to the charges we have been compelled to bring against him in regard to his connection with the Chilean guano fraud. We wish our readers could see the whole article; but it is such a mass of verbiage that it would occupy too much of our space to copy it entire. We will therefore give its principal points, appealing to our contemporaries, and to all who see both papers, whether we do not give substantially the meaning of the article. We make these remarks lest our readers should suppose we had distorted Mapes' article, and that he cannot possibly have made such a *confession of guilt*. Here it is:

"Some time since, during the dull season of the year, the owners of the Mexican guano applied to us to grind it; * * and we did grind, at an expense of a little less than \$5 per ton, 200 tons of their material. * * We did this as any miller might grind a quantity of material sent to him for that purpose, having nothing to do with it as a business matter, further than the receipt of the mere cost, without profit of grinding it, while our mills were not wanted for other purposes. We consulted with the proprietors of this article; and after giving our views, we took their instructions as to its necessary constituents. After the manufacture was commenced, they wrote to the Factory, giving orders as to the brand to be placed upon it. * * We had nothing to do with the name of this article, and think that selected a bad one, calculated to cause those who purchase to suppose it a different article."

We shall make no comments on the above, but would call attention to the fact that, while Mr. MAPES has hitherto tacitly denied having any business connection with the "Improved Superphosphate of lime," although made on his farm, he here admits unwittingly that the mills and apparatus of the Superphosphate Factory, are his. "The owners of the Mexican guano applied to us (MAPES) to grind it;" "and we (MAPES) did grind" it. "We (MAPES) did this as any miller might, without profit [of course!] while our (MAPES') mills were not wanted for other purposes. We (MAPES)

consulted with the proprietors, and after giving our (MAPES') views, we (MAPES) took their instructions," and made a mixture of Mexican guano, sugar-scum, salt, plaster, a little Peruvian guano and quick lime, which gave it "the strong smell desired by many farmers." "We (MAPES) knew the proprietors to be men of the highest integrity," and so innocently obeyed their instructions to smear the bags with Peruvian guano, being at the same time especially careful that no superphosphate of lime stuck to them, lest it should reveal the source of their precious contents! "We (MAPES) thought the name selected a bad one, calculated to cause those who purchase to suppose it to be a different article"—calculated to deceive, to defraud,—but "we (MAPES) were only the miller," so we did not scruple to mark this mixture "Chilian guano," and to endorse Dr. HAYES' statement that it was "said to come from the coast of Chili."

We wish to do Mr. MAPES no injustice, and will therefore give his explanation of this endorsement.

He denied in his July number, having any knowledge of it whatever. He now says "it was not written for publication," but was "given to one of the proprietors for the purpose of being shown to two friends, one in Philadelphia, the other in Baltimore." We are not sufficient casuists to determine which is worse to deceive the public, or only "two friends," but we give it as our most decided opinion that no man,—not even Prof. MAPES, is morally justified in stating that an article made by himself, in his own factory at Newark, is "said to come from the coast of Chili."

Although Mr. MAPES fully confesses that he manufactured the Chilian guano, he contends that it is a manure of great value. If it is, chemical analysis is unable to determine the value of a manure. Our analysis showed its fertilizing value to be less than \$15 per ton. The guano importers at Baltimore and Petersburg, Messrs. REECE & PLEASANTS, analyzed it and stated it to be very inferior, in fact, comparatively worthless. The parties to whom it was consigned, demurred to these opinions, and the matter was referred to Dr. STEWART of Baltimore, who analyzed it, and gave its value as thirteen dollars per ton.

MAPES says "the sweeping item of organic matter which is composed of dried blood" ** has not been properly alluded to in giving value to its parts. The analyses—every one of them, Dr. HAYES' included—show most conclusively that the organic matter is not dried blood. It is the refuse scum of the sugar refiners, of which MAPES has thousands of tons on his farm.

THE CROPS IN CALIFORNIA.—The accounts of the crops in California are very conflicting, some representing them as excellent and others as far below an average. The *California Farmer* says: "We have conversed with many cultivators of grain along the Alameda and Santa Clara counties, and they speak very discouragingly of the crops. Many feel confident that there will not be over one-half the quantity of last year."

Short Horn Herd-Book.

MESSES. EDS.—It may interest some of the Short Horn breeders who take your paper, to know that the second volume of the American Herd Book is now finally in press, and is working off at about a hundred pages a week, and I hope to have it ready for delivery by the middle of September. The number of pedigrees will be quite 2,500, with upwards of 50 very fine cuts of superior animals. The large number of pedigrees, and the great labor required in their examination, and correction of the majority of them, has delayed me longer than I anticipated when I commenced the work; but I trust the work will be acceptable. The mass of American Short Horns will be there represented, as but very few herds have been withheld from contribution. I give this notice thus publicly, to answer the many inquiries that are made of me as to the time subscribers may expect this book.

LEWIS F. ALLEN. *Black Rock, July 28, 1855.*

P. S. I shall give due notice to subscribers how they can best receive the book, when ready.

Disease Among Horses—Its Cure.

In the COUNTRY GENTLEMAN of May 31, Mr. E. LINK of Greene Co., Tenn. described a very fatal disease, somewhat resembling "blind staggers," which had recently broken out in that and adjoining counties. A correspondent of the *New York Spirit of the Times* refers to Mr. LINK's communication and says:

This very disease broke out along the Congaree river in Richland and Lexington Districts, South Carolina, in the fall of 1852, and was very fatal. I lost three mares, three colts, and three of my mules. On the next plantation it was even more fatal than with me. In about ten or fifteen miles square, there must have been at least forty mules and horses killed by it.

The symptoms are not exactly alike in all cases; but there is one premonitory symptom of this disease which, if observed, and treatment began immediately, nine out of ten will be saved. I saw at least fifteen cases, and in all of these I observed that the eyes had become more or less blue. In some cases there was partial blindness, in others the animal retained its sight. I bled several, in whom I had observed this blueness of the eye, until they dropped, and in two or three hours afterwards no trace of discoloration could be perceived, and they all got well. I think I saved three others by using a remedy given to me by Mr. N. B. Young: blister the forehead from the foretop to a level with the eyes, and give an ounce of laudanum every half hour until the agony subsides; but be sure and bleed until your patient drops. I think Mr. Young got this prescription from a Kentuckian.

From my experience, I would say that it was a disease of the head. I opened several skulls, and found the brain in most of them in a fluid state, and very offensive, although the animal had not been dead more than ten or fifteen minutes. In others, there was no trace of inflammation on the brain, that I could perceive.

This is a fatal disease, for it is seldom discovered until the animal is too far gone. But if it once breaks out on a plantation, or in a neighborhood, if the eyes are carefully examined at least twice every day, and the animal freely bled and blistered when the eye is observed to become blue, I have no hesitation in saying that many horses will be saved. The lancet must be used promptly and freely, or death is sure to ensue.

Notes of Travel.

We have just returned from a pleasant journey through western New-York, and a few notes may not prove unacceptable to our readers.

About two years since we had the pleasure of spending a day with Ex-governor HUNT, on his delightfully located farm, near Lockport. Mr. H. was then commencing, with the assistance of Mr. JAMES VICK, of the *Genesee Farmer*, a number of improvements in the grounds round his residence. The house is situated about five hundred feet from the road, on the summit of a gentle slope. The lower portion of the farm has been thoroughly underdrained, and what was once an eye-sore is now covered with beautiful green-sward, dotted over with young but thrifty trees. A fine gravelled carriage road winds through these up the slope to the house and farm buildings, and the newly formed but well kept lawn, studded over with flower knots and choice ornamental trees and shrubs, contrasts pleasantly with an adjoining orchard of dwarf pear and other trees loaded with beautiful and delicious fruit. Wire fences with iron supports have taken the place of the time-honored but not very picturesque Virginia rails. This is a great improvement. The wire fences do not intercept the view, and the whole farm will in a few years have the appearance of a beautiful English park, worthy the residence of one whom his political opponents could designate by no worse name than that of "The Country Gentleman." An osage orange hedge, planted in the spring of 1854, looks exceedingly thrifty and handsome. It stood the last severe winter uninjured. In one hundred rods only sixty plants have died. Mr. BANCROFT of Medina, furnishes the plants, sets them and fills up vacancies should any of the plants die, for fifty cents per rod.

Adjoining the farm of Gov. HUNT, Dr. TOWNSEND & Son have a fine farm and nursery of upwards of 200 acres. They have the finest collection of dwarf pear trees we have seen for some time; the pear blight, however, is making sad havoc on some of the varieties, especially the *Gloire Morceau*. A row of trees of this variety growing by the side of a row of *Louise bonne de Jersey* was nearly all destroyed while the latter was not injured. Here, as elsewhere, the *Bartlett* is apt to break off, at this season of the year, at the joint of the pear with the quince stock. We counted no less than six fine trees, loaded with fruit, blown over in a few rods. There is little advantage in dwarfing the *Bartlett*, as it will come into bearing quite early enough without. Dr. TOWNSEND has had it bear in three years from the bud on the pear stock.

The corn crop in this county has been seriously injured by the cold rains. Dr. T. says "there are thousands of acres that have never had a plow or cultivator in the fields, since they were planted." We saw many such fields not only in this county, but everywhere we have been. The weeds are in many places quite as high as the corn. Surely two such years as 1854 and 5, will teach farmers the value of underdrain-

ing. Last year the corn on properly drained and cultivated land was but slightly injured by drouth, while that on land needing underdraining was not half a crop; this year the corn on drained land is rioting in almost tropical luxuriance while that on wet undrained soil is a failure; and what is true of corn is also true of other farm produce. It is impossible to estimate the immense loss the country has sustained the last two years, from the neglect of underdraining. Instead of urging farmers to "sow one acre more," we would advise them to underdrain one field more as the best means of raising cheap food for the million.

This is not an idle or extravagant assertion, as some may think. We have witnessed the astonishing effects of underdraining in Great Britain and in this country, and believe in sober earnestness that it is destined to do more for American agriculture during the next ten years than every thing else put together. At Rochester we visited the farm of H. C. IVES, Esq., who has laid down a considerable number of stone and tile drains with manifest advantage. He has also used Peruvian guano on his wheat, sown in the fall, and thinks it will pay. The difference between the guanoed portion and that not guanoed, by the side of it, is most perceptible. We hope Mr. IVES will ascertain the exact increase caused by the guano. Estimates are always liable to error.

If any are dubious as to the profitableness of expending \$30 per acre in underdrains, let them visit the farms of JOHN JOHNSTON and ROBT. S. SWAN near Geneva, N. Y. After gazing at corn, yellow and stunted, as are most of the fields we pass on the N. Y. Central Railroad, it is delightful to walk through an eighteen acre field of Dutton corn gaily waving its tassels a yard above one's head. Such a field has Mr. JOHNSTON. Standing on the side of the hills we could not reach the top of the tassels within eighteen inches. We have never seen such a piece of corn before in this state; the whole field is the same, except a few rods where an underdrain is stopped, and here the corn is *not one quarter as good*. We may say, *par parenthese*, that Mr. J. has laid 210,000 tiles on his farm, and this is only the second drain that has stopped.

When Mr. JOHNSTON bought what was then called the "poorest farm in all creation," one of his neighbors said he "would starve" on it; but by underdraining, by growing clover, and consuming it on the farm by sheep and cattle, and by using a large quantity of oilcake as food for stock, by a judicious rotation, deep plowing and thorough cultivation he has made it one of the most productive farms in the state. Agriculture is a complex art. We must not attribute this great improvement to underdraining alone, but it lies at the foundation; the deep plowing, thorough cultivation and high manuring would have had comparatively little effect without it.

The prominent points of Mr. JOHNSTON's system are as follows: 1. Feeding a large number of cattle or sheep in winter. For instance, late last fall he purchased 331 Spanish Merino sheep for \$600, and fed them

during the winter on wheat and oat straw, and half a pound of oilcake and three fifths of a pound of corn per sheep, per day. He sold them in the spring at \$6 per head. The cost of oilcake and corn was \$1.63 per sheep. 2. The rich manure made from the oilcake and corn-fed animals is applied to the land *in the fall*; generally it is spread on a grass field that is to be plowed the following spring and planted with corn. 3. Clover is not plowed under as a manure. The wheat is seeded down in the spring with 8½ lbs. of clover and 5 quarts of Timothy. It is allowed to lie in grass four years, being generally mown for hay. 4. Eight tons of plaster are used on the farm each year. It is sown *broadcast*, a bushel per acre, on the corn at or immediately after planting, and the clover and grass lots are supplied freely. It is, too, sown on the wheat in the fall for the benefit of the young clover next year. 5. Salt is frequently sown, a barrel per acre, on the wheat. It gives a bright stiff straw and causes the wheat to *ripen earlier*. Salt too is often sown on the corn and hastens its maturity. 6. For wheat the land is usually summer fallowed, but now since the soil is so rich that the wheat is sometimes too rank, an occasional oat or barley crop precedes it. There are many other interesting points in Mr. JOHNSTON's management to which our space forbids allusion this week.

The farm of Mr. SWAN deserves a more extended examination than we were able to give it. Mr. S. studied agriculture with Mr. JOHNSTON, and brought intelligence, skill, great energy, practical knowledge and abundant capital to the work of improving a beautifully located farm of 340 acres, but which had been "run out" by mismanagement and neglect. Four years since, when he came in possession, the wheat on the farm produced only five bushels per acre, and some of it was plowed under in the spring. He commenced a systematic course of drainage, and has prosecuted the work with such energy that he has not a field on this large farm which is not thoroughly underdrained. We have never seen a farm in Great Britain where the drainage was more complete, *and none where there were so few open ditches*. He has laid *forty-six miles* of underdrains. The result is most satisfactory and astonishing. On one field, where four years since the wheat yielded less than five bushels per acre, there was growing at the time of our visit a crop that we should estimate at 30 bushels per acre. The corn and oats too are most excellent.

We may mention that Mr. JOHNSTON sowed a ton of Peruvian guano in strips through a field of wheat, and the effect was very beneficial; so much so that Mr. J. intends using three tons on his wheat this fall, and Mr. SWAN seven tons. Mr. J. sowed it *broadcast* on the land, before the last plowing, at the rate of 200 lbs. per acre, and plowed it in six inches deep.

RASPBERRY VINEGAR. To every pint of vinegar put three pints of raspberries. Let them lie together two or three days; then mash them up and put them in a bag to strain. To every pint, when strained, put a pound of crushed sugar. Boil it twenty minutes, and skim it. Bottle it when cold.

Improving an Old Meadow.

MESSRS. EDITORS—I have a lot containing about six acres, the soil of which is of a light mucky nature, from six to eighteen inches deep, with a hard clayey subsoil. Formerly it produced, year after year, heavy crops of hay. It finally failed, and I plowed it up, since I have been unable to seed it, so as to produce one half as much as formerly. This, I apprehend, is in consequence of water standing upon the soil, in the fall and spring, and thus rendering it a complete honey comb. Now, what shall I do with this ground, in order to get it into a good meadow? I know the answer will be "first drain it well." But the ground is so level, that it is doubtful whether it would do any good; and then, stone, with which to fill the ditches, would have to be drawn a considerable distance, and finally, the expense would amount to near two hundred dollars, to do it thoroughly.

I suppose tiles will not drain off surface water, well?

There is another way in which I propose to put the "snap" into this piece of land, and that is, by heavy manuring; and, it is upon this point, in particular, that I wish to have your opinion. I have not manure to spare, with which to manure this lot, from my barn-yard. How would it do to put on three hundred pounds of guano to the acre, and seed it to clover and orchard grass? Orchard grass formerly grew upon this lot, and so far as my experience goes, I set it down as one of the very best grasses, whether you take into consideration the weight or the quality of the hay. J. W. L. Solsville, Madison Co., N. Y.

You do not say why the land is now more liable to excess of water in the spring and fall, than when it produced annually heavy crops of grass; but probably your opinion is correct. If it is, you cannot effect a permanent cure without removing the cause of the disease. You must "first drain it well." If this cannot be done, it is impossible to make a *good* meadow of it. Stagnant water is as injurious to plants, as carbonic acid is to animals. You would not expect a horse to thrive, even on the best of food, in an impure stable, neither should you expect an edible plant to flourish in an unhealthy soil, even with the best of food in unlimited quantity. "Heavy manuring," with guano, superphosphate of lime, ashes nor any other fertilizer, foreign or domestic, can dispense with underdraining on wet land. If you can get an outlet for the water, 3 and a half to four feet deep, there will be no difficulty in draining the lot however "level" it may be. It is a great mistake to suppose that tiles will not drain off the surface water. Bury the tiles or pipes two and a half to three feet deep, let them have the proper descent, and a good free outlet, and we will guarantee that the surface water finds its way to them, even through the most tenacious clay. We speak not from theory alone, but from actual practice and extensive observation.

Good Peruvian guano is the best artificial fertilizer for meadows and will probably pay you well *after underdraining*. It will be money thrown away to sow it on wet land.

The Cultivation of an Exhausted Soil.

A few years since, it was the fashion of many agricultural writers, especially of those who made any pretensions to science, to attribute any deficiency of farm products in a county or state to the gradual exhaustion of the "mineral plant-food" of the soil. "Look" said they "at the eastern counties of the state of New-York; especially at Rensselaer, Albany, Columbia, Greene, Ulster, &c. Half a century has barely passed since these counties produced 50 bushels of wheat per acre and other crops in proportion, now, according to the census of 1845 they produce but a little over 5 bushels of wheat per acre."

We have just returned from a visit to the beautiful farm of B. B. KIRTLAND, Esq., Greenbush, Rensselaer Co., N. Y., and we would that some of these writers could witness the magnificent crops now growing on this "exhausted" soil. The original farm contained, if we mistake not, about 300 acres, and had been so "run" by the former owners or tenants that when purchased in 1831 and a part of it sown to oats, the yield at harvest was less than the seed; and in 1832, hay had to be purchased for the horses and cattle. The farm has since been divided, and now half the original land supports 50 head of cattle, and produces for sale 50 tons of hay annually besides a considerable quantity of rye, oats, potatoes, &c. In 1850, a field of five acres of Mediterranean wheat, yielded thirty bushels per acre; and four acres of Hutchinson wheat yielded 25 bushels per acre.

How has this improvement been accomplished? By good tillage, and the judicious management and use of all the fertilizing materials that could be made on the farm. No potash; no phosphates; no "mineral plant-food" has been brought on to the farm.* These indispensable elements were lying in a latent condition in the soil; and it is certain that at this present time the soil contains even less of them than it did in 1831; for their has been a constant exportation of them in the hay, grain, potatoes and milk; but they are now in an active, assimilable condition. Underdraining, good tillage, plowing under clover, the free use of organic matter, muck, &c., render the inert potash, phosphates, &c., of the soil available more rapidly than they are exported, and hence the farm increases in fertility every year.

Our excellent friend JOHNSTON writes that he has corn from five to six feet high on his fertile Seneca County farm. Mr. Kirtland has several acres of corn, over six feet high when the leaves are stretched out. And a field of oats adjoining will produce 80 bushels per acre. Potatoes look well everywhere this year, but Mr. K. has fifteen acres of of Merinos, Junes, Mercers, and Duke of Cumberlands that will be hard to

*It may be proper to state that Mr. K. has been in the habit of purchasing a considerable quantity of brewers grains for his milch cows, and consequently a small quantity of phosphates, potash, &c. have been brought on to the farm, but not enough to affect the above statement. Grains contain a very large quantity of nitrogen (4.9 per cent in dry matter, and hence the droppings from the cows would be exceedingly rich in ammonia.

beat. The field had been in grass for 20 years, and for the last 10 years had been used as a cow pasture. This spring it was turned over with a Michigan Double Plow, and the potatoes planted, in rows, without any manure. If anything the vines are too luxuriant.

A large quantity of choice fruit is raised on the farm. The apple, plum, and pear trees are loaded, and prove that the scraping and cleaning of the bark, the cultivation of the soil, and the judicious but free use of the pruning knife meet a rich reward.

What a splendid garden. How healthy and vigorous are those fine beds of melons; no bug dares look at them now, and when the plants were young they were fenced out with boxes. Here is a fine row of summer celery, and there, any quantity of delicious raspberries. Help yourself. This *Fastolf* is very fine. Yes, but this Red *Antwerp* is of better flavor, and "picks" easier. *Franconia* is perhaps better than either *for market*. We are too late for strawberries. There is not a single berry left on that large bed of *Crimson Cone*. Is that a good variety? "None better in this vicinity. It is large, firm, hardy and prolific." What fine Early York cabbage; no grub has troubled them, and here are cucumbers by the bushel. Why cannot every farmer have such a garden? Over the fence there, on rather stiff soil, is three quarters of an acre of orange carrots dressed with 400 lbs of Peruvian guano. They are, as they ought to be, a fine crop. For horses, Mr. K. thinks half a peck of oats and a peck of carrots are equal to a peck of oats. Here is a fine lot of onions; but how thick they are; what shall you do with them? Thin them out, dry them and replant next spring. In this way you get very fine onions.

The barn-yard is supplied with a constant stream of water by an hydraulic ram, from a spring a quarter of a mile distant, and 60 feet fall. Mr. K. contemplates forming a reservoir and using the surplus water, drainings of the barn yard, &c., for irrigating purposes. No farm could lie better for it,—and we will guarantee that nothing will pay better.

A COLT POISONED.—Mr. OLIVER BOWEN, Eastford Ct. writes us that he has recently lost a colt by poison. He was a fine sprightly animal, and grew very fast till twenty-five days old, when he became sick and refused to suck the dam; frothing at the mouth and nose, grating his teeth, &c. Mr. B. supposed it to be a case of poison and "treated it accordingly, by giving salt and water and other remedies prescribed by the neighbors; but all to no purpose." In eight days the colt died. On a post mortem examination, a worm was discovered in the stomach two and a half inches in length, with numerous feet or claws, with hooks or horns at the head. Death, however, was supposed to have resulted from "eating the leaves of a white bush growing in pastures, about the size of whortle berry, having white bark and blossoms, and said to be very poisonous." Mr. SHEARMAN, a neighbor of Mr. BOWEN, lost a colt a few years since in a similar manner. Mr. B. is desirous of ascertaining from others who have suffered in the same way, information on the subject, treatment, &c.

Chinese Arbor Vitæ.

LUTHER TUCKER, Esq.—Can you inform me of the nature, proper climate, and treatment at all seasons, of the Oriental or Chinese Arbor Vitæ, a native of China and Siberia in rocky situations; and also on the mountains of Japan? Judging from this, I should think the climate about this city in the winter would not be too cold for them, but my personal experience is different. I also learn they become quite hardy even in the climate of Edinburgh. If not too tender for this climate, what can be done for the hedge to protect it from the cold and winds of our bleak winters?

What kind of soil do they require, and where planted as a hedge, should they be kept carefully headed? JOHN W. PAYNE. Troy, N. Y.

The Chinese Arbor Vitæ is usually hardy in the middle portions of New-York, and forms a neat ornamental tree. It is however sometimes injured, but usually, so far as we have observed, by exposure to the rays of the sun after intense cold. Hence in a place shaded on the south, as on the north side of a building, high fence, or evergreen trees, it would probably always succeed. Out of many trees, only a portion were injured the past winter, with a temperature 26° below zero.

But we would advise our correspondent not to undertake a hedge with this plant. The American Arbor Vitæ, (called erroneously, *white cedar*, in western New-York,) is incomparably better, in every respect—hardier, more vigorous, bearing shearing better—and much easier to procure. It will grow on almost any soil—and may be procured of most nurserymen at a moderate sum by the thousand.

Rennet for Scours in Cows.

EDITORS COUNTRY GENTLEMAN—In your last CULTIVATOR, I find an inquiry for a remedy for the scours in cows, to which I would answer, that in the fall of 1837 the scours got among my lambs, and quite a number of them died of the disease before I could stop it. A friend informed me that he had a two year old steer that had the same disease for several weeks, and every medicine that he administered failed, till some one recommended rennet. He gave it, and it effected an immediate cure. I then commenced to give it to my lambs, liquid, the same as prepared to set a curd for cheese. I gave four tablespoonfuls to each lamb, and every one recovered, and I have continued to use it to this day, and have never known it to fail in a single instance, except when a sheep has had the disease while dying with old age. One dose generally cures; if not, repeat it in twenty four hours. I give six tablespoonfuls to an old sheep; from six to ten times that quantity, I should think, would answer for a cow. REED BURRITT. Burdett, N. Y., July 10, 1855.

Another correspondent writes that he had a cow taken with scours, from eating swamp hay, and after trying beech bark, iron wood bark, Evan root and mullein steeped, and other popular remedies. The cow was given up to die; but as a last resource he gave her a pint of whisky into which was stirred four tablespoonfuls of black pepper. This revived her a

little. He then at the recommendation of a friend took a rennet soaked it in water, and gave her a quarter of it daily and "she is now to all appearance getting well."

Heavy Fleeces—Leicester Sheep, &c.

A sheep-shearing festival was held, in June last, at Ann Arbor, Michigan, under the auspices of the Washenaw County Agricultural Society. Of the several varieties of sheep, only five were exhibited, namely, the Spanish Merino, the French Merino, the Saxon, the Silesian, and the Leicester. The Spanish Merinos were by far the most numerous—a pretty distinct indication of the variety which is the greatest favorite in that section of country. Among the fleeces shorn on that occasion, we observe some quite remarkable in point of weight. The following were among the most remarkable; and as the cost of raising wool bears some near proportion to the weight of the live carcass, and as the fleece should bear some proportion to the carcass, we give, as a guide to a more correct judgment, the weight of the animals before being shorn.

	Weight of sheep with wool on.	Weight of fleece.
	lbs. oz.	lbs. oz.
Leicester buck, 3 yrs. old,.....	200 12	8 6
Leicester ewe, 3 yrs. old,.....	141 4	9 14
Sp. Mer. buck, 4 yrs. old,.....	136 8	8 11
Sp. Mer. buck, 4 yrs. old,.....	133	9 8
Sp. Mer. buck 5 yrs. old,.....	139	11 11
Sp. Mer. buck lamb, washed 3 weeks,.....	97 3	8
Sp. Mer. buck, 3 yrs. old,.....	156	12 6
Sp. Mer. buck, 3 yrs. old,.....	118 8	13 6
Sp. Mer. buck lamb,.....	62 2	8 11
Saxon buck, 4 yrs. old,.....	117 2	6 1
Saxon buck, 2 yrs., wool of 2 yrs. growth.	69	3 1

The wool of the Leicester sheep, a coarse wooled variety was not put into competition with that of the finer wooled varieties. We have given the weight of two fleeces of Leicester sheep, as some help towards determining the question of the profitableness of raising that variety for mutton; some being of opinion that at present prices of mutton and wool, a flock of these sheep would yield as much profit to the breeder, or more, perhaps, than one of any other variety. Some lambs of the Leicester variety were exhibited, of the age of six to eight weeks, which were calculated to weigh 60 lbs. to the carcass, and to be worth \$3 or \$3 50 per head to the butcher.

It seems to be a general opinion that the wool of the Leicester breed of sheep is of little value. Mr. STEPHENS, in his Book of the Farm, gives an opinion of a very different description. He says, "the wool is of the most valuable description, not on account of the *fineness* of its quality, for many short-wooled sheep have much finer wool; but its *great length*, as well as its tolerably fine quality, renders it useful in the manufacture of all fabrics which require combing wool, and in which worsted is employed."

If, as seems generally supposed, the weight of the fleeces of Merino sheep will, on an average, amount to one-twentieth of the live weight of the animals from which they are taken, sheep weighing from 80 to 90 lbs., usually giving fleeces of from 4 to 4½ lbs., then some of the above fleeces were quite remarkable, being considerably in advance of that proportion. B.

Influence of the Moon.

An esteemed correspondent, at New Haven, Conn., has sent us a communication of some length, on the "Influence of the Moon in Agricultural Operations." Its length precludes its insertion entire, but we will state briefly its ground and reasonings.

Our correspondent thinks the repeated agency of the moon, even if it does not merit notice on account of its truth, should claim more attention in this age of investigation and progress, from the general prevalence of the belief in relation to it. He mentions several instances of the popular belief, which he thinks worthy of further examination, among which are PLINY's notions that grain, to sell, should be cut at the moon's increase, being heavier;—and to keep, should be cut at its decrease, being then more incorruptible. He cites the opinion of the French poultry fanciers, that eggs will be more likely to produce chickens at full moon; that pigs should not be killed at the moon's increase; that trees should be cut near the new moon, &c. &c.

He thinks it "time enough to seek for a cause, when we ascertain the facts" in the case; and that when ARAGO made his accurate and extended observations, his mind had been previously "made up" on the subject.

Now, we can assure our correspondent that we highly approve at all times, a spirit of investigation, and a system of observations with a view to useful and practical results. But there may be some points towards which our time and labors may be directed with so little prospect of success, as to render it very unwise for us to waste our energies upon them. Life is short; and they who accomplish most, usually do so, in proportion to the judgment they evince in directing their labors towards the most profitable pursuits,—and not always to the *amount* of labor they perform.

For example,—suppose we expend five years of labor in observing the influence of an increasing or decreasing moon on the ripening of grain—for nothing short of five years of labor would answer, to distinguish this influence from the innumerable operating causes of heat and cold, moisture and dryness, clear and cloudy skies, soil, cultivation, manure, blight, and so forth—and then find the opinion groundless, what have we attained? We have, it is true, settled *this* point; but we know of no limit to the number of similar "opinions" that would also need settling. Shall we not therefore, as some guide to the probability of success, look a moment at "the cause,"—which our correspondent thinks best not to do? Wherein then, can ripening vegetation be affected by the difference, whether the sun happens to be shining on the right or the left side of the moon—which in fact constitutes all the difference between a decreasing and an increasing moon?

We are sometimes told that the difference in the growth of plants at new and full moon, is owing to the increased light at the latter period. Now, it has been fully demonstrated that the light of the sun exceeds

that of the moon by more than two hundred thousand times; consequently a plant would get more light during one good day of sunshine, than in two hundred thousand nights, or *six hundred years*, of full moon. Now, to examine this influence on vegetation, (in connexion with a thousand other influences,) would not only require several years, as we have already shown, but the examinations would have to be made with a minuteness and accuracy, in order to determine such nice shades of difference, far exceeding any thing ever yet attempted in accurate agriculture. So great, indeed, would be the other disturbing causes, as compared with the nice influence of lunar light, that it would be very much like trying to determine the increased depth of the sea occasioned by a drop of rain, by sounding on a rough and stormy surface.

Now, all or nearly all the popular opinions of the moon's influence on vegetation, boiled pork, and setting hens, have resulted from the loosest and most random observations. Many of them are at direct variance with each other; and yet such conflicting opinions will both become verified about half the time. There is no rule whatever, that would not be likely to come right occasionally. Suppose, for instance, that the robin, by singing with his tail pointing due west, denotes rain within seven days,—would not this rule sometimes hit the mark? As with all other similar rules, its supporters would always observe the coincidences, and forget the failures. We have known the admirers of these rules dodge about in the most ingenuous manner, when reminded of the failures. A prediction of drouth, for example, would be sustained by such remarks as, "O we have not had *much* rain—a small shower, comparatively." Or the reverse, with, "Well, there were a few drops fell—it looked very much *like* raining, at any rate."

We would much rather trust the observations of ARAGO, the astronomer, even if his mind was "made up,"—for these observations were made with careful and *accurate measuring* of the precise quantity of rain that fell, from which there could be no dodging—we would much rather trust such observations as his through a series of years, than the loose and one-sided ones we have just mentioned.

Many years ago, a "Weather Table," called Dr. HERSCHELL's, (to give it currency,) was published in some of the Agricultural Almanacs, with a blank leaf for a corroborating register at every month. One season's careful observations, and a record kept for each day (and not, as is usually done, registered in the memory, to be forgotten or not, as was most convenient,) told very plainly at the end of the year, that there was nothing the least reliable in this, or any other set of rules, for the weather was found to "go on" without any regard to the moon or any one else. For although there were occasional coincidences, there were as many contradictions at other times.

But the great leading objection, it strikes us, to any attention to the changes of the moon in controlling the operations of the farmer, is its improper interference with his regular routine of labor and operations. The cultivator, who delays sowing a crop, or securing a harvest, because the right time in the moon has not yet arrived, will often lose most important advantages, or incur serious disaster. The *unavoidable* delays and interruptions to the farmer's plans, are already sufficiently great, without any further addition. The importance of undivided attention in any pursuit, was forcibly and justly expressed by a wise writer "He that observeth the winds shall not sow, and he that regardeth the clouds shall not reap;" and with no less propriety it may be added, "He who governs his labor on the earth, by the changes of the moon, shall have a scanty harvest."

Experiments with Salt.

In the No. of *The Country Gentleman* dated May 31, we find some details of experiments with salt, by Mr. E. MARKS, of Camillus, which have interested us not a little. The proper mode of using salt, in order to derive benefit from it to growing crops, or, in other words, the particular circumstances in which it may be used advantageously, as well as those in which it will operate only injuriously, seem not yet accurately ascertained. More light is needed upon this subject. We feel under obligation to Mr. MARKS for his contribution of a few facts which may help to dissipate the darkness which still rests upon the subject. We have carefully noted them, and put them aside for future reference, when other facts of a similar kind are made known to the public. As yet the facts in relation to the effects of salt on crops are too few to allow of any reliable or logical deductions. Let as many as feel interested in the improvement of practical agriculture, or in extorting from Nature her profound secrets, or in coaxing her, by the utmost devotion to knowledge, to give up some of her store yet locked up, follow the example of Mr. MARKS, and make experiments, giving their brethren the benefit, as he has done, of a statement of the results.

As we have made an experiment on a small scale this season, we give the result so far as yet apparent. We took two rows of Indian corn, when about two inches high, and applied after hoeing them, a small tablespoonful of salt to each hill of one row, and a like quantity of plaster to each hill of the other row. Within a few days after having rain enough to dissolve the salt, there was a perceptible difference between the two rows. The young corn on the row treated with salt was as small in size as it was a week or so before, and more of a yellow color, while on that row to which plaster had been applied the corn was obviously growing vigorously and rapidly, and was of a rich green color.

At the date of this writing, (July 2d,) the corn on the row treated with salt has not yet grown much since the salt was applied and is of a yellowish caste, while on that which was treated with plaster it is growing luxuriantly, almost every hill being twice as tall and large as on the salted row. The next row, to which no application was made, is more forward altogether than the salted row.

The soil is a clay loam with a preponderance of clay, which has always yielded good crops of wheat and grass.

It would be premature to speculate on the *modus operandi* or manner in which the salt operates in such a case. We may guess, with Mr. MARKS, that salt, by making the soil to which it is applied cold and moist, may be thus injurious to corn. But for inferences which will be *reliable* we must wait until we have a larger collection of facts, from which to deduce them. We shall welcome any such with much interest, as sources of light upon a subject as yet involved in considerable darkness. *OBSERVER.*

Rod Fences.

In a communication of mine on "Fencing and Fences" published in a late No. of *The Cultivator*, when I stated that the "Rod fence not many years since was first introduced in *this County*, where if I am correctly informed it originated, &c," I intended to give Salem County, N. J. the credit of being the *birth place* of the invention. The printer, (being perhaps more liberal minded,) by the addition of a single letter to the word, made it read *Country*, and thus scattered it to the four winds. And near the conclusion of the article, where it now reads, "and the *sides thrown off*," it should be, and the *riders thrown off*, meaning the top rails. These are small matters, and would not have been noticed at this time, had not my attention been indirectly called to them, by the inquiries of your correspondent "A. B.," who, in the *COUNTRY GENTLEMAN* of last week, solicits some additional information in regard to the construction of the Rod Fence, and thus furnished a fit opportunity to make the correction. I now reply to his inquiries.

1st. I do not recollect to have read any description of the "Wave Fence," and therefore cannot say that it is identical with the rod fence. Take the common worm rail fence. Remove the stakes and the riders, bore holes through the rails at the joints where they intersect each other, and through these holes, insert the rod, and you then have the *rod fence*. Th^{is} of course is not the plan of construction, but it will give a correct idea of the fence itself.

2nd. The holes should be bored, as I stated, with a half inch auger, but the *rods* need not be more than $\frac{1}{2}$ of an inch in diameter, four feet, four or five inches, is an approved length.

3d. In most cases, the rod is *not* bent over the top rail, but left erect. The blocks (if blocks are used between the two top rails) should not be so large as to make the space between them so that cattle or horses can get their heads through the opening—should this happen, or crooked rails render it necessary, bending the rods would be the *remedy*.

4th. The rod is not made (or at least need not be made) fast into the stone at the bottom, merely inserting it in a hole, say $\frac{1}{2}$ of an inch deep, will be found to prevent, in a great measure, the rails from slipping from the foundation, and render the fence more secure against the winds. Where the worm fence is in use, all practical farmers know, that in making it, unless you give it plenty of *worm* (as we call it here,) it will at best be but a tottering fence, the sport of every high wind. This is no less true of the rod fence, nevertheless to save *rails*, some of the *penny-wise* adopt this method in both instances, regardless of the homely maxim that "A thing well done is twice done." To conclude, with six good rails to the panel and a substantial stone block, with a hole drilled in the center for the rod, a fence can be constructed, that with a four feet worm, will serve for all ordinary purposes and be found as durable as any other rail fence now in use. C. Salem Co., N. J., 7th Mo. 3, 1855.

ENTOMOLOGY.—NO. IV.

The Apple Plant Louse.

Having in preceding numbers given the readers of the *COUNTRY GENTLEMAN* and *CULTIVATOR* some account of a bark-louse upon the Osage Orange, the hunter weevil, and the chinch bug, I here present them with a history of the apple plant louse, and propose to continue these communications from time to time hereafter, in a series of articles, chiefly in reply to the numerous enquiries of the subscribers to these papers respecting injurious insects. It is hoped that correspondents will in all cases forward specimens of the insects of which they write, for in most instances the name can only be authentically determined from an inspection of specimens. These should be inclosed in a goose-quill, with a wooden plug, if the insect is soft and delicate, or packed in dry sawdust in a tin box if it is of a more firm and hard consistence. And if it is a worm or larva, it should be placed in a large tin box and surrounded by a plentiful supply of leaves or other substance on which it feeds, and forwarded by express, that it may come to hand alive, and the perfect insect be bred from it, if it proves to be an unknown species. Letters of enquiry should also give a full and definite account of the particular injury done by the insect, and all the facts in its history within the knowledge of the writer. It is hoped that our conjoint labors may thus elicit and place on record much interesting and valuable information upon the economical entomology of our country.

The following communication forms the basis of the present article:

BELCHER. Wash. Co., N. Y., June 25th, 1855.

MR. TUCKER—I have herein enclosed a shoot from one of my young apple trees, which as you will perceive, is nearly covered with insects. My orchard consists of about 400 trees, most of which were planted four years last spring, and they are as fine trees as I ever saw of their age. Two or three years ago, I noticed this insect on one or two trees; since then they have increased so rapidly that every bud, leaf and twig, on about one-third of them, is infected similarly to the one I send you. Until this summer their effects have not been serious. They have now become so numerous on many of the trees, that they have nearly or quite checked their growth, and the leaves on some of them are beginning to wither and die. They cause the bark of the tree to turn black, the leaves to curl so as to form a complete circle, which affords them a very good protection. The tree emits a very offensive smell, and its fruit is not more than half its usual size.

Latterly I have made some inquiries of those who have orchards of the same age, and they all make similar complaints respecting this insect: none of them however, (like myself,) know of any name for it, yet I presume it is well known to you.

If you can give me any information respecting this insect, or any means of eradicating it, through the *Country Gentleman*, it will be thankfully received.

Respectfully yours,

WM. GILCHRIST.

The insects inclosed in the above communication are the common Plant louse of our orchards, and pertain to the order *HOMOPTERA*, the Family *APHIDÆ* and the Genus *Aphis*. This genus is distinguished from all other insects by having fore wings with one longitudinal vein (the rib vein), from which branches three oblique veins, the last or outermost one of which is twice forked. The insects of this family and of the closely allied family *COCCIDÆ* or Bark-lice, are among the greatest pests which the fruit-grower and the gardener have to encounter. They are astonishingly prolific; and every kind of tree, shrub and herb, it is probable, has a species of louse infesting it; whilst many have two, three or more. Thus the apple tree has a Wooly-louse infesting its roots, another upon its limbs, and a third species which commonly locates itself at the origin of the twigs; it also has a species of Bark-louse, together with the Plant-louse which we are now to consider, and another similar but slightly larger species, which I met with in the orchards of Illinois last autumn. We thus have six species of lice infesting the apple trees of this country. Two of these have not been hitherto described. I discovered

them in the course of my investigations the past year. And the one first alluded to above, has never been but briefly noticed. The other three have long been known, both in Europe and this country. A full account of each of them will be contained in my forthcoming Report upon the Noxious Insects of the State of New York; and I propose at present briefly to notice one of them, in answer to the inquiries of Mr. GILCHRIST.

In many instances it is extremely difficult to determine whether the lice upon our American trees and plants are identical with those which occur upon the same or similar vegetation in Europe, the descriptions given of them by the old authors being so very brief, and often drawn up from a superficial examination of the species. And I have heretofore been in much doubt whether this common *Aphis* of our apple trees was the same insect which similarly infests the orchards of Europe, named *Aphis Malii* by Fabricius; that species being described by him, by Kellar and others as being of a green color, whereas our insect in its winged state is almost invariably black, its abdomen only being green. But having recently been favored with specimens of the European insect, from my esteemed friend, Dr. SIGNORET of Paris, and also on comparing our *Aphis* with the description given of the European by M. Amyot (*Annals Entom. Soc. France*, 2d series, vol. v. page 478) and the detailed account of the veins of its wings, furnished by Mr. Walker, (*List of British Museum*, page 985) not the slightest doubt remains in my mind, but that the insects of the two continents are identical, and that upon this side of the Atlantic it has been introduced by the trees brought hither from Europe.

Grouped together upon the twigs and leaves which it infests, individuals will be found in all stages of their growth. When newly born they are nearly white, but soon become of a pale dull greenish yellow, which is their prevailing color during the larva period of their lives, the horns, the nectaries or two small tubes near the hind end, the knees and feet being dusky and sometimes black. The mature females are generally without wings, and are much broader than the larvae. They are shaped like an egg, the smaller end being forward, and are less than the tenth of an inch long. They are of a pale yellowish green color, commonly with the head yellow, and some stripes of a deeper green lengthwise of the body, but sometimes only a single stripe on the middle of the back, and transverse ones at each of the sutures between the segments. The beak by which it sucks the juices of plants, the horns, the nectaries and the legs are whitish, with their tips black or dusky, and the knees are also commonly dusky. Winged individuals, which are commonly the males, measure but the twentieth of an inch to the tip of the abdomen and somewhat more than the tenth of an inch to the tip of the wings. They are of a black color, the abdomen green, with a row of black dots on each side forward of the nectaries.—The nectaries also are black, and reach about half way to the tip. In other individuals they are longer, reaching to the tip, and these have a black, tail-like appendage about a third of the length of the nectaries. The legs are whitish, the feet and knees black or dusky. The wings are transparent, but not perfectly pellucid, the veins dark brown, the rib-vein paler and towards its base whitish, and the oblong opaque spot at its tip is dull white.

Early in the spring, sunk deep in the cracks and crevices in the bark of the apple trees, may be seen numbers of small, oval, black, shining eggs, from which these insects are produced. Scraping off the dead bark of old trees, and coating the trunks of all the trees with whitewash at that period of the year, is a practice of much utility, since thereby most of the eggs of this and some other insect predators will be destroyed and the health of the tree promoted. These eggs hatch quite early, as

soon as the buds begin to expand, and the young lice locate themselves upon the small, tender leaves, inserting their beaks therein and pumping out their juices. All of the lice thus hatched are females, and reach maturity in ten or twelve days. Without any intercourse of the sexes, these females that were produced from eggs, now commence giving birth to living young, bringing forth about two daily, for a period of two or three weeks, when, having become decrepid with age, they perish. The young mostly locate immediately around their parent, as closely as they can stow themselves, and reaching maturity after a similar length of time, in their turn become parents. Thus these vermin continue to breed, and as fast as new leaves expand they are in readiness to occupy them. When favorable circumstances attend them, their multiplication surpasses all power of computation. In the warmth of summer they attain maturity in less than half the time they do early in the spring. And like most species of the *Aphides* they at this period of the year produce winged as well as wingless females, the former dispersing themselves to found new colonies upon other trees. There are from sixteen to twenty generations in the course of the season, from twenty to forty young being produced from each parent. Thus from one egg, as stated by Mr. Curtis, in seven generations, 729 millions of lice will be bred. And if they all lived their allotted length of time, by autumn everything upon the surface of the earth would be covered with them. When cold weather begins to approach, males as well as females are produced, and their operations for the season close with the deposite of a stock of eggs for continuing their species another year. On the last day of last October, it being a warm sunny day after many nights of frost, I observed myriads of winged and apterous lice wandering about upon the trunks, the limbs, and the fading leaves of all my apple trees, many of them occupied in laying their eggs. These were scattered along in every crevice of the bark, in many places piled up and filling the cracks, and others were irregularly dropped among the lichens and moss growing upon the bark—every unevenness of the surface, or wherever a roughness afforded a support for them, being stocked with as many as could be made to cling to it. The eggs were then of a light yellow or green color, and were so slightly glued in their places that it was evident by far the largest part of them would be washed away by rains or brushed off by the driving snows of winter. But I by no means anticipated such a great diminution in their numbers as actually occurred. I should judge that in the spring several hundreds had disappeared for every one that then remained.

It is stated by Mr. GILCHRIST, these lice locate themselves upon the green, tender succulent shoots which have grown the present season at the ends of the twigs, and also upon the leaf-stalks and under surface of the leaves. It is not common for this species to curl the leaves which it infests, in the manner stated by Mr. G., although the lice upon the peach, the snow-ball, and many other trees and shrubs wrinkle and distort the leaves in this way. The honey-dew which these lice secrete, and which may often be observed in a little clear drop upon the ends of their nectaries, falling upon the leaves and evaporating often coats them over with a shining surface, like varnish; and the bark of infested trees has the peculiar black appearance noticed by Mr. GILCHRIST. But I have never observed any odor arising from such trees. Ants are always found wherever a colony of Plant-lice is congregated, being attracted hither to feed upon the honey-dew, which forms an important part of the nourishment of these insects. To obtain it, the ant gently touches the back of an *Aphis* with his horns, whereupon the *Aphis* ejects a drop from one of the nectaries, which the ant immediately sips. Plant-lice have hence been designated the ants' kine or cattle, as they regularly milk

them, as it were, and stand around them constantly, herdsman like, driving away any intruder and guarding them from molestation. And to examine a colony of lice we are always obliged first to brush off or destroy these, their heroic defenders.

Plant-lice also have many insect enemies which in various ways attack and devour them. In consequence of one kind of these destroyers being seen so constantly upon infested plants, I have known persons who made it a regular practice to search for and kill them, supposing it was them which bred the Plant-lice. Fatal mistake! It is therefore highly important that every person who possesses a garden or an orchard should be acquainted with these destroyers of the Plant-lice, that he may distinguish his friends from his foes. But, as it would extend the present article to an undue length to introduce notice of them here, they will form the subject of our next communication.

Whenever Plant-lice become numerous, one or more of the kinds of these their destroyers also congregate and multiply, so that in an incredibly short time, a week or less, trees which are thronged and over-run with these vermin, become entirely rid of them. This is so commonly the case, that I entertain scarcely a doubt, that before this paper falls under the eye of Mr. GILCHRIST, he will not be able to find a single insect remaining upon his trees. But, if his orchard is not thus fortunate—for it sometimes happens that the *Aphis* is not discovered and subdued by its enemies, and that the trees on which it becomes multiplied, have their juices extracted to such an extent that they are greatly injured and in some cases killed by this depredator—to what measures can he resort to avert the impending calamity?

Drenching the infested vegetation with strong soap-suds or weak lye is a remedy that has been much recommended and is certainly one of the most efficacious within our knowledge. But it is only those insects which are wetted by the solution that are destroyed. These are creatures which "sprinkling" will not cleanse from the tree; "immersion" must be resorted to. As it is the ends of the twigs which are chiefly infested, Mr. GILCHRIST will be able to rid his trees to a great extent, by preparing a solution of this kind, in a large basin or a small tin pan, and holding this under the infested twigs, bend them one after another down into it, holding them there for several seconds. This will in most cases destroy all of the lice upon the twigs thus immersed, and will cleanse and impart new vigor to the young trees. But is by no means so infallible a remedy as some writers have represented it to be. Some of the lice, perhaps from being more hardy than the generality of their race, will survive. It, however, will probably reduce their numbers so far as to allay all fears of their injuring the trees further the present year.

Tobacco water, made by pouring a gallon of boiling water upon quarter of a pound of tobacco, and used in the same manner as above directed, has been reported as a certain remedy, but I have made no experiments with it. It may be worth while for Mr. GILCHRIST to try this upon part of his trees, if they yet continue to be infested, and we shall be happy to have him communicate to us the result.

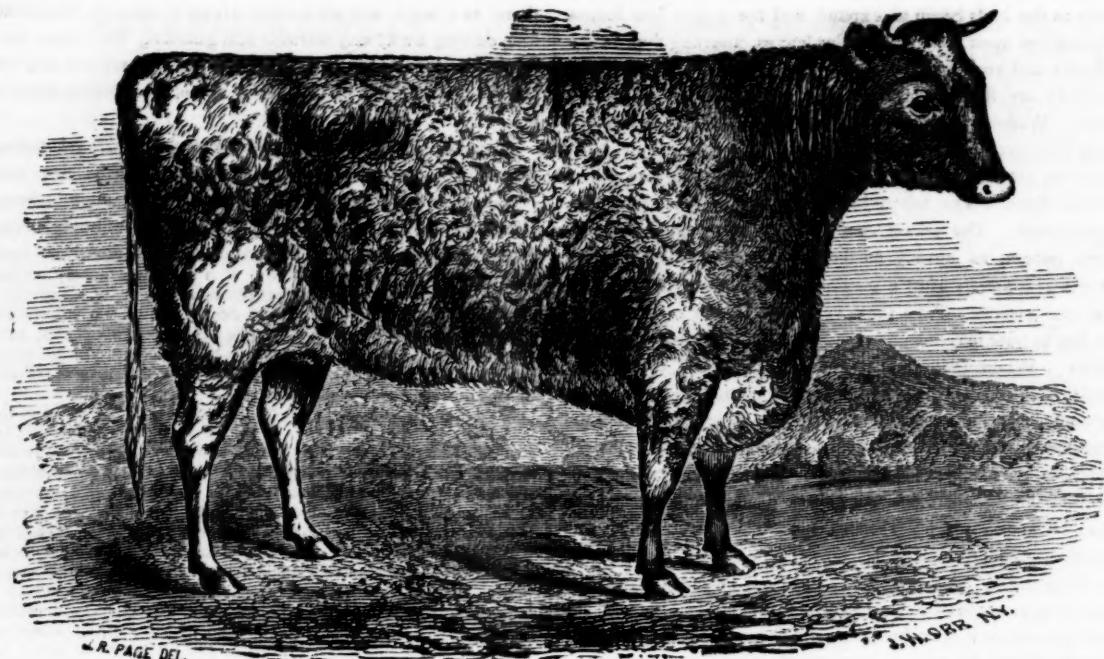
The only remedy known, which is sure of completely ridding infested vegetation of all the *Aphides* upon it, is the smoke of tobacco. But unfortunately this can only be resorted to in the case of rose bushes and other low shrubs or small trees. For enclosing a shrub to be operated upon, gardeners abroad use a large box, a hogshead, or a kind of small tent humorously described some time since by Prof. Lindley, under the name of a "Parapetticoat,"—made by sewing the upper end of a worn-out but entire petticoat to the outer edge of an opened parasol that has been thrown aside, any holes in its cover being first mended, and a staff six feet long securely tied to its handle. The petticoat being then raised up in folds to the parasol, the staff is inserted into the ground under the centre of the infested shrub, and the petticoat is drawn down to surround and inclose all of the foliage of the shrub. The interior is then filled densely with tobacco smoke for the space of five or ten minutes, or long enough to insure the fumes penetrating every curl, plait and crevice of the foliage. The apparatus is hereupon removed and the foliage immediately washed with lukewarm water from a large syringe, else it too would be liable to be destroyed. This utterly exterminates the *Aphis* from the shrub, every insect being suffocated and dropping from the plant, so that

"unnumbered corpses strew the fatal plain."

As the trees of Mr. GILCHRIST are young and small, if the *Aphis* still infests them as extensively as when his letter was written, it may be his best course to resort to fumigation, constructing some cheap covering, upon the plan of Prof. Lindley's Parapetticoat, and filling it with smoke, by throwing tobacco upon a small dish of live coals placed under it.

ASA FITCH.

Salem, N. Y., July 9, 1855.



Maid of Oxford.

Bred by and property of Noel J. Becar, Smithtown, winner of 1st prize in the class of two year's old heifers bred in this country, at the New-York State Fair in October, 1854. Got by Lord of Eryhoime (12,205;) dam Oxford 13 by 3d Duke of York (10,166,) g. d. Oxford 5 by Duke of Northumberland (1940,) gr. g. d. Oxford 2 by Short Tail (2521,) gr. gr. g. d. Matchem Cow by Matchem (2281,) gr. gr. gr. g. d. by Young Wynyard (2856.)

Answers to Inquiries.

THE BEST FRUITS—As you know everything, please tell me the four best apples, plums, peaches, cherries; best nectarines, apricots; early and late; soil for each, and any book on the subject. Also the best work on kitchen garden. E. PARKES. *Coffee Landing, Hardin Co., Tennessee.*

We shall not undertake to give the *best*, as standards vary, but will give a good select list, for that region of country. *Apples*—Early Harvest, for summer; Fall Pippin, for autumn; and Prior's Red and Rawles' Janet for winter. *Plums*—Imperial Ottoman, Lawrence Gage, Jefferson, Coe's Golden Drop. *Peaches*—Serrate early York, Large Early York, Crawford's Early, Ward's Late Free. *Cherries*—Governor Wood, Mayduke, Downer's Red, Belle Magnifique. *Nectarines*—Early Violet, Elrige, Downton, and Boston, (the last for *show*.) *Apricots*—Breda, Moorpark, Golden.

As a general rule, the best soil is any one that has a dry or well drained bottom, and is fertile enough to raise good corn and potatoes. But it must be kept clean and mellow by cultivation. The American Fruit Culturist will furnish the necessary information on fruits; and Buist's Family Kitchen Gardener, on vegetables.

BUDDING PEACHES.—A word of information through the Cultivator; when is the best time for inoculating peach Trees? GEO. H. LARISON. *Sergentsville, N. J.*

The latter part of summer and early part of autumn, while the stocks are yet growing thrifly, and will peel well, and also after the buds have become sufficiently hardened and matured for the success of the operation.

To Destroy Lice on Apple Trees.

MR. TUCKER:—I have just read a communication from ASA FITCH, in answer to a letter from W.M. GILCHRIST, published in your paper of July 19, on the Apple Plant Louse. I have for several years been much troubled in a nursery and young orchard, by an insect which must be the same described by them.

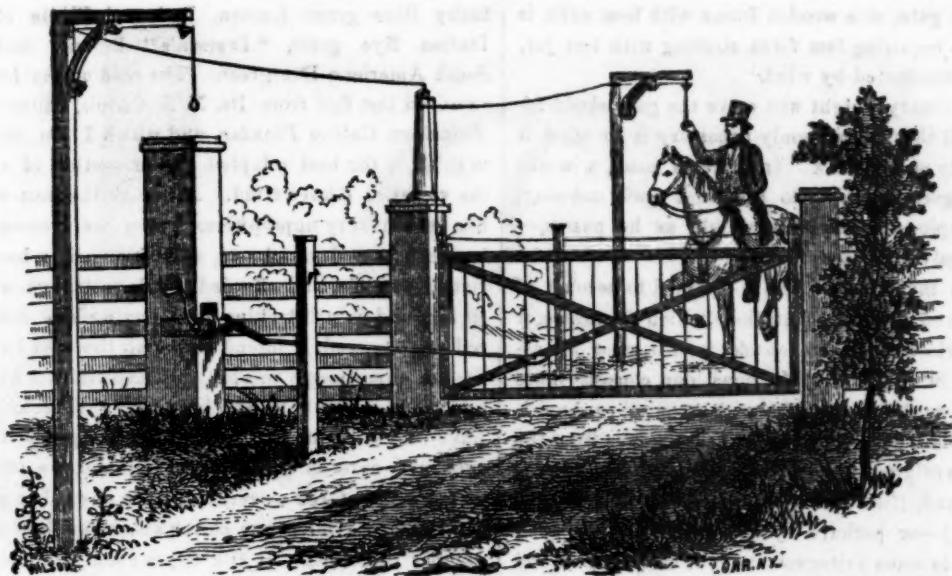
My first experience was about six years ago, in a nursery of about 1200 apple trees, which became so infested with them that the trees turned mostly black, and the leaves withered and died. The ants accompanied them in countless numbers.

I tried various remedies, needless to mention, as they did no good. At last I took 4 or 5 pounds of tobacco, chopped it up, boiled it, and pressed out the juice, making a strong decoction. I then took a large tin pan, and with the help of an assistant to hold the pan, I bent over the trees and immersed the trees and branches infested in the tobacco water. It completely destroyed the insects, and the ants did not appear to be at all pleased with the baptism.

Many of my trees had become so bad, that the leaves dropped off. After the application of the tobacco water, the trees leaved out again and grew finely.

Since then I have had to resort to the same remedy more or less every year, both in a nursery and young orchard, and have ever found it effectual when the tobacco water was made strong enough.

As the trees grow older, I find they are not so likely to be infested with them. MOSES L. COLTON. *West Bolton, Vt., July 23, 1855.*



Winegar's Automaton Gate.

A rather annoying inconvenience has been long felt by carriage drivers and equestrians in passing gates, from the necessity of alighting to open them. This has led to various contrivances to obviate the difficulty. Most of these have proved failures, or they have required so much work and pulling for swinging the gate open, as to be little or no better than the simple old-fashioned process of jumping down and doing it directly by hand. In England, the large gentleman farmer, who in his daily rounds is compelled to pass many gates, has a horse trained on purpose that shall allow him to open the gate easily on horseback; and the resident on a large estate builds a costly porter's lodge, and employs a person by the year to watch the entrance and open when needed.

We have lately witnessed the successful operation of a simple contrivance, effected by C. WINEGAR, Esq., of Union Springs, N. Y., that obviates all these difficulties, at a permanent cost not exceeding ten or twenty dollars, and that enables the horseman or carriage driver to open and shut the gate without stopping, with as much ease as he could ring a door bell, and which a child five years old might easily perform. We passed repeatedly through a gate of this kind, for some months in successful operation on the grounds of W.M. H. CHASE, of Union Springs, without stopping the vehicle, either for opening the gate or for closing it after us. The only labor required is to wind up a weight by means of a windlass, which a boy ten years old performs, once for about fifty motions of the gate.

This contrivance, not unlike a clock, consists of two principal parts, the *running*, and *regulating* parts. The weight which opens and shuts the gate, is contained in a tall box, seen on the left side of the figure, and resembling in external appearance a large post. The weight in descending, turns a crank. A rod placed between this crank and the gate, and connected to each, receives by this means a reciprocating motion, and would open and shut the gate in rapid succession until the weight reaches the ground, were its motion

not controlled by the latch which fastens it shut when it strikes the post, or which fastens it open, as soon as it reaches the smaller post placed at the proper point for this purpose.

The opening and shutting is effected from the carriage or saddle by simply giving a slight pull or jerk on the loop suspended from the arm of the tall post, a short distance from the gate. A wire, extending from this loop to the hinge-post, and thence across the top of the gate to the latch, instantly sets it free whenever a slight pull is given, and the crank and rod immediately draw it open, where it is retained by the latch. On passing through, the loop is pulled on the other side, loosening the latch again, and causing the gate immediately to close.

By placing the two tall posts with the loops, sufficiently distant from the gate, the opening may be accomplished at any desired time before arriving there, an increased length of the wire being all that is required.

This ingenious piece of mechanism was the result of necessity. The inventor, C. Winegar, whose residence is a short distance back from the road, the entrance being at a steep inclination, found it difficult to induce his horses to stand while the gate was opened in the usual way. He was therefore led to adopt this new contrivance to obviate the necessity of stopping. He has, since our cut was engraved, adopted a neater arrangement for the wire work, which is placed *under ground*, connected as formerly to the gate-latch at one end, and being supported by a low post at the other, where there is a horizontal lever for giving motion to the wire, and which is merely touched with the hand in passing, for throwing the gate open or closing it.

He also finds a decided benefit from attaching a *fan wheel* to the crank, for lessening momentum; at the same time that any degree of power may be given to the mechanism. This is more especially needed where a large or heavy gate is employed. In all other cases

a light iron gate, or a wooden frame with iron rails, is the best, as requiring less force, striking with less jar, and being unaffected by wind.

As an ordinary weight will move the gate about fifty times, all that is commonly necessary is to wind it up regularly once a week. In extreme cases, a workman, who goes regularly to his work each morning, may be employed to raise the weight as he passes,—requiring only a few seconds.

Such an invention as this is destined to become of great value on all large plantations, which the manager must superintend on horseback; and it must be especially so in England. We hope our cousins there will not do as they have done with some other American inventions, endeavor kindly to relieve us from the claim to its originality—or prove it was introduced here from England, (like McCormick's Reaper and Wood's Cast plow,)—or perhaps show conclusively, as they have done in some instances, that our old neighbor and friend Winegar was after all born and brought up on the other side of the wave. England has quite enough to be proud of, without such small drafts upon the Yankees.

Rye and Barley for Winter Pasturage.

Living in about the same latitude as your correspondent in Texas who is desirous of knowing the qualities of Rye and Barley for winter pasturage, and having had some experience in winter pasturage, I will give him the result, hoping it may have the effect to induce further experiments among some of your numerous readers in this section.

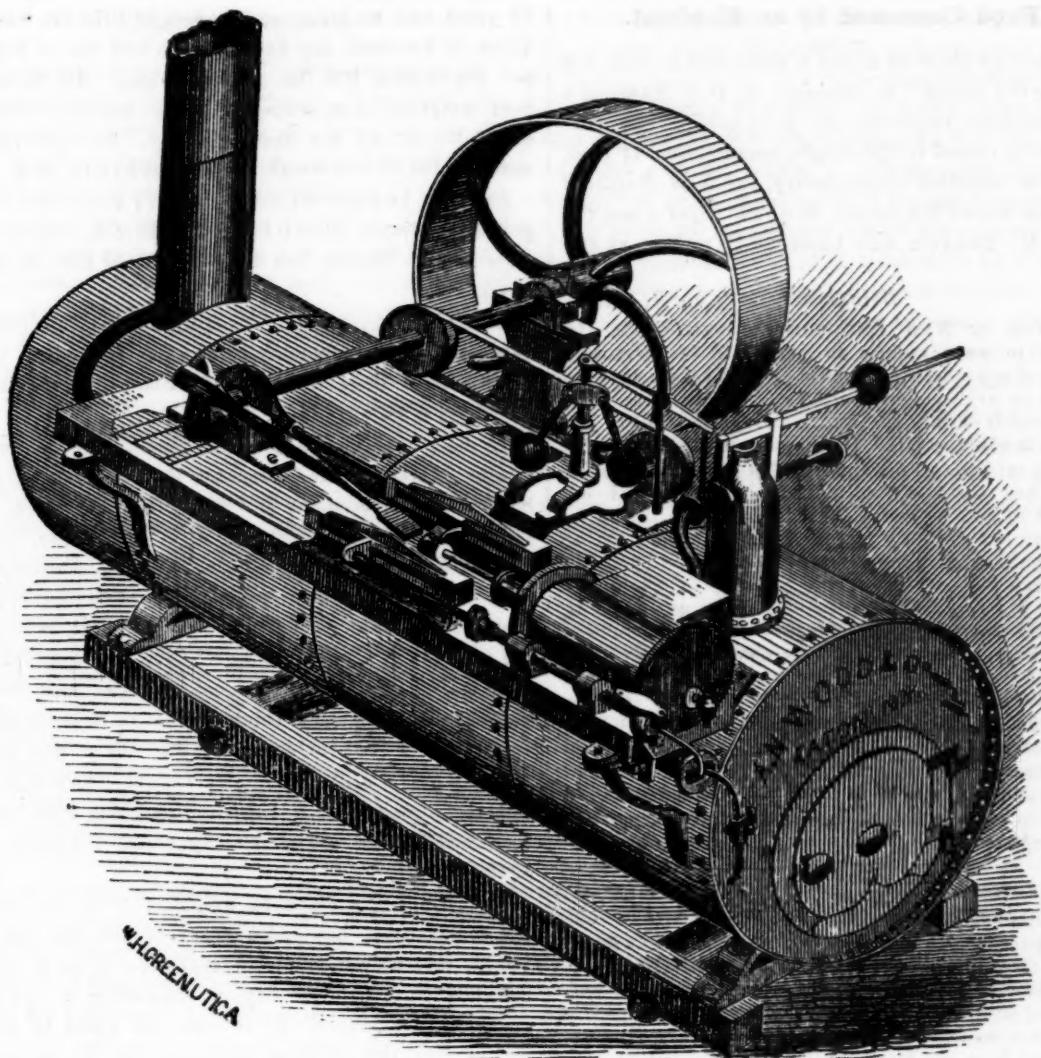
I have ascertained from experiments that September and October is the best season for sowing rye and barley for winter pasturage. And if sown on rich soil it will be suitable for pasturing in January, and can be constantly pastured until April or May, when it becomes tough, and shows a tendency to go to seed. It should then be turned under with a large plow 8 or 10 inches deep and the land will be in a good condition for a summer crop. If the rye is left to go to seed the straw is of but little value and it is not liked by stock, and has but little nutriment. As regards the comparative value of rye and barley, rye has the preference, being more tender and nutritious. Barley has the advantage of a more rapid growth at first, but it decays earlier and does not grow as rapidly as the rye after having been fed off, and the rye is preferred by stock.

I had a few years since, a field of rye and one of barley adjoining. The enclosure was open so that the stock could feed in both or either, and I found they ate the rye off close to the ground whilst the barley was from 6 to 8 inches high. I also tried the experiment of keeping a milch cow for a week on the different pastures, and I found the week's pasture on the rye had the preference both in quantity and quality of milk and butter, since which time I have abandoned the barley pasture and only sown rye. I have also been experimenting with several of the northern varieties of grasses, such as Timothy, Orchard grass, Ken-

tucky Blue grass, Lucern, Red and White clover, Italian Rye grass, "Iverson's" Rescue, and the South American Evergreen. The seed of the latter I procured last fall from Dr. N. B. CLOUD, editor of the *American Cotton Planter*, and which I am inclined to think is the best adapted to our section of any of the varieties I have tried. Although the past winter has been a very unpropitious season for grasses, having been very dry and cold, still this variety has continued to grow, and afforded good pasturage all the spring, and is still looking well, having now commenced to go to seed. I intend saving all the seed I can for further experiments this fall. My experiments with red and white clover have also been very satisfactory, and have convinced me that, with the use of proper fertilizers, and care in preparing the ground, we can grow as fine crops of red clover here as in any other part of the Union. I sowed my clover about the first of November last, which, by the by, is about one month or six weeks too late. I have pastured it since February, until within about one month since, and it is now from eight to ten inches high, and in bloom; but to get a good stand of clover for a permanent winter pasture, it should not be pastured the first year. I am also cultivating a native summer grass I found in my garden, and intend saving the seed. I have just measured a stalk of it, which measures 4 feet 8 inches, and is very tender and juicy, and I am inclined to think it a superior summer grass.

I am convinced from my observations and experiments, that, with the proper fertilizers and cultivation, ours is the great grass-growing section of the United States, and if the eastern people who have for years past furnished this section with hay, could make one-half the quantity to the acre that we can from our native grasses, they would have made fortunes by the traffic; but the high price the eastern hay has commanded here the past few years, has directed the attention of a few to the cultivation of the different varieties of foreign and native grasses, and I hope the result of these experiments will prove so favorable that in a few years such an article as eastern hay will not be found or known in our markets. P. B. POMEROY. Mobile, June 25, 1855.

BOSTON VETERINARY INSTITUTE—We have received a "Prospectus and Regulations of the Boston Veterinary Institute, incorporated by the Legislature of Massachusetts, May 2, 1855," and rejoice exceedingly that there is at last some prospect of an institution in this country where young men can prepare themselves for the practice of veterinary medicine and surgery. The first session of the Institution will commence the first Monday of November 1855, and continues four months. Courses of lectures will be delivered on the Anatomy and Physiology of the Horse, by G. H. DADD; on the theory and practice of veterinary medicine and surgery by C. M. HOOP; and on Cattle Pathology by ROBERT HOOD. Students can also attend, without extra charge, courses of lectures on Pathological Anatomy and Chemistry, by Professors JACKSON and COOK. Tickets to the full course of lectures \$75. Full particulars can be obtained by addressing Dr. Geo. H. Dadd, Boston.



PORTABLE STEAM ENGINE FOR FARM PURPOSES.

Steam Power for Threshing and other Farm Work

LUTHER TUCKER—In reply to the inquiry of H. in a late No. of the *Country Gentleman*, permit me to occupy a limited space in your excellent paper. I am aware that his inquiry is the exponent of the same necessity felt by a very large number of the more thrifty class of farmers, for some motive power less expensive and more efficient than horse power, for driving the various machines now so generally used by them. The high prices of feed for teams as well as man, has this year especially impressed all with the necessity of curtailing as much as possible team labor, and all turn involuntarily to steam as a substitute, and judging from the few, yet successful, trials thus far made, little doubt can exist that upon farms where two or three teams are now needed, a steam engine will take the place of one of them at least, within a few years.

I have no personal knowledge of but one engine being used in this country for threshing. Last fall Mr. R. WEAVER of Nelson, in this county, used a portable engine of four horse power, to drive a traveling threshing machine, and cleaner—that is, he went from farm to farm, doing his neighbor's threshing, as has been the custom with horse powers, and I am informed on good authority that it worked to his entire approbation, there being but one trouble—there was not grain enough in the vicinity to give him full employment.

At the Madison Co. Fair, held in this village in 1852 Messrs A. M. Wood & Co. of Eaton, Madison Co., had on exhibition a portable engine, of four horse power, designed for farm purposes; it was run attached to an ordinary threshing machine, which it drove to the satisfaction of the judges and spectators, but this being principally a dairy region, less necessity for steam power has existed than in grain growing districts, and none except the one referred to, has, to my knowledge, been put in operation.

The Messrs. Woods still manufacture and have constantly on hand this class of engine. The price for three horse power is \$275, four horse power \$340, six horse \$510.

This, I believe answers the inquiries of your correspondent, and permit me to add, that upon a farm or plantation, threshing is but one of many kinds of business that may be done with this little engine. It is equally adapted to a fan mill, corn sheller, cotton gin, clover huller, corn mill, corn stalk and straw cutter, grind stone, churn, wood saw, steaming fodder, and in short to any kind of work to which stationary power is applied. By an ingenious arrangement—discharging the escape steam into the smoke pipe, the sparks from the fire are so perfectly extinguished as to render it perfectly safe about a barn in the dryest time. At the trial at the county fair referred to, a bundle of straw was attached to the top of the smoke pipe all day, and at night was wet with condensed steam. A four-horse power will require less than one-fourth of a cord to run it ten hours. GURDON EVANS. Eaton, N. Y.

Food Consumed by an Elephant.

Some time since we copied a short article that was "going the rounds" in reference to P. T. BARNUM's farm-elephant, requesting Mr. B. to give us the particulars in regard to his weight, consumption of food, &c. Our excellent contemporary, the *New England Farmer*, copied the article, in which paper it met the eye of Mr. BARNUM who immediately replied as follows.

Bridgeport, Ct., July 7, 1855.

EDITOR OF NEW ENGLAND FARMER:—Sir,—In answer to your inquiry in regard to the diet and weight of my working elephant I would state that he eats on an average one bushel of oats and one hundred pounds of hay per day, Sundays and all! His weight is 4700 pounds. He will accomplish any kind of work set before him, and uses ten times better judgment than three-fourths of the "help" which I am obliged to employ on my farm. Above all things, he is not an *eye-servant*. Once set him at work piling wood, picking up stones, or any thing else, and you can leave him without fear of his playing "old soldier" in your absence. Another capital negative quality is, that he don't pick up his duds and start for home exactly at six o'clock in the afternoon, as many other farmers' "assistants" do. He is willing to labor till sundown, and even later, if work is pressing. On the whole, he is a very honorable, industrious, intelligent and well-behaved farmer; nevertheless, I cannot conscientiously recommend elephants as the *cheapest* workers on a farm. They cannot work in cold weather and of course would eat themselves up, trunk and all in a single winter.

Truly yours, P. T. BARNUM.

P. S.—Do let me improve this opportunity to caution my brother farmers against "believing all they read in the papers." About planting time I read in a newspaper that a sure preventive of the potato rot was to soak the seed potatoes in water with an ounce of sulphate of copper to the gallon. I tried it, and it *did* prevent mine from rotting and from *chitting*! After they had been two weeks in the ground my man dug them up, and found them sound inside, but as dry and hard as a bone on the outside, with not the slightest prospect of their ever exhibiting any natural signs of life. They were perfectly "copper fastened!" Luckily I only experimented on a small portion of my potatoes, and discovered the joke in time to remedy it by planting potatoes in their natural state. P. T. B.

The principal object of our inquiry was to ascertain what quantity of food the elephant consumed in proportion to his live weight, in order to see how it compared with the quantity consumed by cattle, horses, sheep, &c. It has been said that "a very large ox or cow, relatively to its weight, requires less food than an animal of smaller dimensions;" and it would seem reasonable to suppose that such is the case, seeing that there would probably be less vitality and involuntary functional activity, or, to use a phrenological term, less *mentality*, in proportion to live weight, than in the small animal. If there were any truth in the idea, one would think an elephant weighing as much as 50 good sized sheep, or 5 heavy horses, would consume much less food in proportion to his weight than any other of our domestic animals. This does not appear to be the case in any marked degree, as the following facts will show.

In BOUSSINGAULT's experiments, the average daily consumption of 17 horses and mares, aged from 5 to

12 years and weighing on an average 1070 lbs. was 33 lbs. of hay each, per day, equal to 3.08 lbs. of hay per day to each 100 lbs. of live weight. His milch cows, weighing on an average 1466 lbs., are also allowed 33 lbs. of hay per head, per day. This gives to each 100 lbs. of live weight 2.25 lbs. of hay per day.

As might be expected BOUSSINGAULT found that 14 growing animals, from 5 to 20 months old, required more food, or 100 lbs. live weight required 3.08 lbs. of hay per day.

BOUSSINGAULT estimates from his experiments, that pigs consume an equivalent of hay per day equal to 3 per cent of their live weight. Sheep, too, require about the same amount.

In some experiments made in consequence of premiums offered by the Worcester County (Mass.) Ag. Society on the economy of cutting food for stock, a pair of working oxen belonging to A. H. HAWES, and kept at moderate work weighing 3134 lbs., consumed 75.2 lbs of hay per day; or 100 lbs live weight consumed 2.4 lbs of hay per day. A pair of steers, belonging to HARVEY DODGE, weighing 2220 lbs., consumed 51.2 lbs. of hay per day, equal 2.84 per cent live weight. Two dry cows belonging to C. B. DEMOND, and weighing 1784 lbs., consumed 43.5 lbs. of hay per day or 2.42 per cent of their live weight. Two milch cows, belonging to W. S. LINCOLN, weighing 1800 lbs. consumed 43.2 lbs. of hay per day, equal 2.4 per cent of live weight.

Mr. BARNUM's elephant, weighing 4700 lbs. consumes 100 lbs. of hay and a bushel of oats per day; 100 lbs. live weight, therefore, consume 2.12 lbs of hay and 0.68 lbs. of oats per day, or, estimating, as BOUSSINGAULT does, that 68 lbs. of oats are equal to 100 lbs. of hay, the elephant consumes 3.12 lbs. of hay per day for each 100 lbs. live weight. To recapitulate therefore, 100 lbs live weight of animal requires of hay per day, in

Working horses,	3.08
Working oxen,	2.40
Milch cows, (Boussingault's).	2.25
Do Do (Lincoln's).	2.40
Young, growing cattle,	3.08
Steers,	2.84
Dry cows,	2.42
Pigs (estimated),	3.00
Sheep,	3.00
Elephant,	3.12

There is considerable difference in these figures, but certainly not as much as might be expected from such various animals. The elephant consumes the most, the working horses and young cattle the next highest amount, then the sheep and pigs, and what is surprising the large milch cows of Boussingault consumes least of all. Working oxen would appear to consume less than horses. On the whole, these figures give little indication that large animals consume less in proportion to their weight than smaller ones.

VINEGAR FROM WATERMELONS.—A correspondent of the *Michigan Farmer*, scraped off the pulp of watermelons, strained it through a thick cloth, and boiled it down one half, or as old cider boilers say, two to one, put it in a cask and in three weeks "had most excellent vinegar," which "continued to improve with age."

The Apple Borer.

Several of our correspondents have recently inquired for a remedy for the apple borer. We cannot perhaps give a better answer than by describing the recent experiments of DAVID THOMAS, of Union Springs, N. Y., with this troublesome depredator.

Last autumn he came into possession of a young orchard of about a dozen trees, each four or five inches in diameter. They had been much neglected, and were so infested with borers that he thinks not one of them would have survived a year without prompt attention. The presence of the borer is indicated by the orange colored, sawdust like excretions thrown out from the holes near the surface of the ground, and the first thing was to find their entrance. This was in most cases easily accomplished by scraping all the pith thus thrown out away from the bark, and where necessary removing the earth away from the tree till the roots branch and separate from each other. As soon as the holes are found a flexible twig is thrust into it, and worked up and down till it reaches the grub, which is at once known by the peculiar *crush* it occasions. A twig the eighth of an inch in diameter, and four or five inches long is commonly quite sufficient. Sometimes the holes are larger and more tortuous, so that it may become necessary to cut away a portion of the bark to obtain access, in which case care is taken to cut longitudinally or lengthwise with the tree, so as to occasion as little injury as possible. It is necessary to pass round several times during the season in these examinations, as new holes will often become visible that were not at first discovered.

By this treatment all the trees we have mentioned have been restored to a sound healthy condition, with the exception of one that was so far gone that it could not be recovered.

When the trees are taken at an early period in the attack, the removal and destruction of the insects are very easy, as much so as that of the peach grub, the borer not immediately cutting deep into the wood of the tree.

No remedy by way of prevention has been found equal to the application of urine about the roots,—about a pint or less for small trees, and two or three quarts for quite large ones, the application being made about once a fortnight.

The Plum on Peach Stocks, &c.

I have met with very little success in budding the Plum on its own kind of stock, while I have found it to take readily on the Peach, but they do not live long. Will you please inform me through the Country Gentleman, what variety (if any) will succeed permanently on the peach, and if it is necessary or politic to transplant it deeper in order to induce it to root from the Plum. C. R. C. *Galesburgh, Mich.*

The peach was formerly used to a considerable extent as a stock for the plum on light soils, where the plum stock does not succeed well. The practice is now, we believe, discarded by all good nurserymen, on account of its *uncertainty*. Some varieties, some-

times do well, treated in this way, among which are the Imperial Gage, Yellow Gage, and some other sorts with long shoots; we have known trees of a large Yellow plum called Peters' Yellow Gage, more than twelve years old, still flourishing, and a tree of the Imperial gage six inches in diameter, bearing profusely. A much better stock is the wild American plum (*prunus americana*) when the largest and strongest varieties are selected, the stock being worked at the surface of the ground or close to the roots.

Transplanting any kind of fruit trees deep, with the intention of their rooting, is generally quite futile, and especially so with plums. Many cultivators seem not to be aware that it is next to impossible for young and delicate rootlets to find their way through old, hard, and thick bark. Generally they are not to be looked for except from the young, soft shoots of the present season's growth.

Re-grafting old Trees.

I am about to commence the business of an orchardist, in a neighborhood where there are a great number of old and neglected apple and pear trees. I wish to undertake to bring these back to their full capacity of bearing. My experience tells me it will be a profitable thing to farmers to have even their oldest trees invigorated, if done at a moderate cost; but whether it will pay them to have new heads put on to such old stocks as some of them have, I cannot from my experience say. You will therefore oblige me by giving your opinion as a guide to them and me, and also state what you think would be a fair remuneration (these times) for the different branches of an orchardist's business, viz., grafting, budding, pruning, &c. W. DODSON. *Nova Scotia.*

A skilful and *reliable* orchardist, in a neighborhood where there are many ungrafted trees, would be a public benefactor. The compensation, per day, should be about the same as that of a skilful carpenter or other superior mechanic. The compensation by the *job* would depend upon circumstances—a good profit has been made at two or three dollars per hundred living grafts, besides the necessary pruning, where several journeymen grafters are employed. But it is of the utmost consequence that the grafts be not only genuine, but of the most profitable sorts. Very few grafters attend properly to this point, and many are great impostors.

PRODUCTIVE SHEEP.—Mr. WM. GRAHAM, North Bay, Oneida Co., informs us that he kept 14 ewes last winter—two of them produced three lambs each—eight produced twins, and three one each, making 25 lambs from 13 ewes—20 of which, by care and watchfulness during the lambing season, he succeeded in raising.

SHORT-HORNS FOR OHIO.—The *North British Agriculturist* states that Mr. DOUGLAS of Athelstaneford, has shipped to the Society of Shakers of Union Village, Ohio, one bull and three heifers of the short horn breed. “The bull Capt. Balco has been successful in gaining several prizes, and the heifers are descended from the most fashionable blood. We understand that the price of the bull was £520 (\$2016) and that none of the heifers were under £100.”

Corn, Turnips and Pumpkins.

MESSRS. EDITORS—I have succeeded in growing turnips among corn, and think it an economical way of producing them. Pumpkins have at the same time been grown to a moderate extent, without any perceptible detriment to either of the other crops. My mode is to select a piece of ground for corn which has lain to clover and grass for two or three years. On this is hauled thirty loads of barn-yard manure to the acre—three-fourths of a cord to the load, which is as evenly spread as an Englishman knows how to do it—plowed in the spring as soon as the ground has become suitable, eight inches deep, and twelve inches wide, which disposes of it to correspond with my views of plowing. Then drag lengthwise of the furrow, with a fine drag. It is now prepared to mark and plant. About the fifteenth of May is my usual time of planting, which is done at right angles four and a quarter feet apart each way, from five to seven kernels in a hill, of the yellow dent variety. It is preferable to pull out than to plant in. Three or four stalks is sufficient to grow. Soon as through planting, seventy-five pounds of plaster is sown broadcast to the acre, and when the corn is up, two pumpkin seeds are stuck in every fourth hill. This time and mode of planting them, is to secure evenness, and to prevent the vines from interfering with the last time of cultivating the corn. It is indispensable to cultivate and hoe sufficiently to eradicate all grass and weeds, as corn, pumpkins and turnips delight in a clean rich soil.

About the first of July and previous to the last time of cultivating, I sow one third of a pound of turnip seed to the acre. The white globe and yellow Scotch (globe shaped) are the best varieties—the former to be fed first, as the latter will keep sound until spring, and are more nutritious.

When gathered, great care will be necessary to keep them from heating and freezing, which in my opinion, is the great draw back to the successful culture of roots as food for stock in this country. One hundred and twenty-five bushels have been an average yield per acre, for the last five years, which is mostly clear gain as they have invariably been consumed on the premises, and again find their way to the land from the augmented manure heap; at the same time the corn does not appear the least harmed by their growth. The turnip grows mostly after the corn is cut up, which should be done as early as practicable. The pumpkins are out of the way when the corn is cut; thus they continue to grow until freezing weather sets in. Gathering them is deferred until the last of November, when they are pulled and thrown in heaps; the tops cut off, and put on them. In this situation they will resist the frosts of the season, while the tops and small turnips can be preserved for the cattle, which have been found of great addition to the forage crops.

Last year, I raised from nine acres, twelve hundred bushels of turnips and five hundred bushels of corn, and fifteen loads of pumpkins, being the second year to the same kind of crops. The turnips were much the best the last year. The corn was not so good, nor the pumpkins, as the year previous, which may be safely attributed to the unfavorable season for corn and

pumpkins, on account of the protracted drouth which lasted from the first of July to the first of September. It should be borne in mind that high manuring is an essential element in producing favorable results, and whether proper facilities are within the reach of all to follow the practice is a question for themselves to settle. In my opinion it is the philosopher's stone in successful husbandry, and the barn-yard the only legitimate source on which we can with certainty rely, as it is fair to presume that domestic animals are kept on every farm sufficient to consume the coarse forage, a portion of the grain, and all of the roots; indeed without them, no system of rotation can be practiced, at the same time preserving the fertility of the soil. J. S. Ypsilanti, Mich.

Paint for Barns.

G. W. Philip, of Greene County, wishes to know of a paint with a suitable color, for his newly erected barns—Venetian Red, Spanish Brown, and French Yellow, and the Ohio paints, all being too dark—and lead and zinc being too light.

The Brandon paints, manufactured and sold by the Brandon Iron and Car-wheel company, have been highly recommended for their cheapness and durability, but we have never tried them, and cannot speak from personal knowledge. They are probably too dark for our correspondent, but this quality may be reduced to any desired degree by mixing with zinc-white.

The following mixtures are given in Wheeler's new and useful work, entitled "Homes for the People," from which some valuable hints may be derived in forming desirable tints:—

A cool grey, similar to what would be the tint of unpainted timber after a few years may be obtained as follows:

Indian Red, half a pound;
Lamp Black, three ounces;
Raw Umber, half a pound, mixed with one hundred pounds of White Lead.

This color will be changed by the addition of sand, which in all cases is recommended, in a proportion of about one quart to every one hundred pounds of mixed color. The finest and whitest sand that the neighborhood affords should be used, and as its hue differs so will the tint of the paint be changed.

This color, with one-third less white, is very suitable for roofs, and is a cool, unreflecting grey tint of great softness and beauty.

Cream color. No. 1.—A soft pleasant tint like that of coffee greatly diluted with milk, is oftentimes well adapted to a building, particularly in regions where red sand stone or other similar objects, with such local coloring, give a brown hue to portions of the landscape.

It may be mixed as follows:

Yellow Ochre, five pounds;
Burnt Umber, half a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound, with one hundred pounds of White Lead.

The key notes in this color are the Indian Red and the Chrome Yellow, and the tone may be brightened or lowered by more or less of either, as individual taste may prefer.

No. 2—A still more delicate tint, resembling the pure color of the Caen stone, and well adapted for a large building with many beaks of outlines, may be mixed thus:

Yellow Ochre, two pounds;
Vandyke Brown, quarter of a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound to every one hundred pounds of Lead.

Inquiries and Answers.

NITRATE OF SODA—*M. Dodson.*—We do not know where this fertilizer can be obtained in this country. In London it is sold at 34 cent per lb. or \$75 per ton. At this price it is probably a cheaper source of nitrogen than Peruvian guano. We believe it is kept for sale in New York and Philadelphia. The parties would do well to advertise.

CULTIVATION OF WILLOWS—*L. A. Beardely, South Edmeston, N. Y.*—We believe there is a good market for willows in New York and in all our large cities. *J. H. CORNING, Valatie, N. Y.*, will be able to furnish the information you desire.

W.—HAY CAPS, for protecting hay-cocks from rain, are made easily, (according to E. CLARKE, in the N. Y. Times,) of wide, coarse, cheap, unbleached sheeting, (say 42 inches wide,) cut square. Larger, they would too much exclude the air. A gallon of linseed oil, simmered with 4 lbs. beeswax, and a quart of jaspian added after removal from the fire, will spread over 40 caps, and may be applied with a shingle like soft butter. Then sew into each corner, a half pound stone, to hold them down, and they are done. No hemming is required—the wax holding the edges.

These are cheap and lasting, and soon pay their cost.

PLUMS—*G. B., Plainfield, Mass.* No doubt the reason of the young plums dropping from the trees, is the punctures of the curculio. As we have repeatedly published directions for the destruction of this insect, we will briefly remark here that they may be destroyed by passing around among the trees every morning (and evening too, would be still better,) spreading white sheets under the trees, and then jarring the insects down by a blow from an axe or mallet. The insects look like a dried plum blossom, are about as large as a hemp-seed, and are distinguished by a sort of beak. They make a crescent-like incision, deposit their eggs there, which hatch and make a grub or worm which spoils the fruit, and causes it to drop. A sharp blow is necessary to cause the insects all to drop, and the sawed stump of a branch is best to strike against, to prevent bruising the bark. The insects are quickly destroyed with a pinch of the thumb and finger. The work must be commenced early, as soon as the young fruit forms. Pigs and geese, turned among the trees, by eating the wormy fruit, are a great help, and often sufficient alone to save the crop the next year.

PRESERVING FRESH FRUITS—We must refer our correspondent, D. D., who inquires for full directions for “all the details, from the gathering the fruit to the final sealing up” in *Arthur's patent self sealing Fruit Cans*, to the inventor himself, as we do no possess with sufficient accuracy the desired information; and we should be glad to publish for the benefit of our readers, the necessary directions.

J. M. H., Warrenton, Ga. We know of no digging machine that would be likely to be of much service in either a stony field or one in which there are many “large stumps and trees with large roots.” The fact is, digging by machinery is yet in its infancy, and it can hardly be said that we have any thoroughly tested “digging machine” for the smoothest and lightest of land, to say nothing of that which is rough, hard and stony.

Issac Beach, New Baltimore. You may use “four to eight quarts of salt to a ton of hay,” in stacking it, without fear of “injuring the cattle” eating it. In fact it will greatly improve hay “stacked in a damaged condition.” A bushel to the ton would certainly prove injurious; half a bushel is altogether too much.

HUNGARIAN SPRING WHEAT FROM THE PATENT OFFICE—In the distribution of seeds from the Patent Office last spring I received a paper containing a fine sample of wheat called Hungarian Spring Wheat, I

planted it the same day, by the side of the Tea Wheat, the latter is in blossom, the former has not shown a joint, which leads me to think it to be winter wheat. Does all the wheat sent out under that name prove to be the same. *F. M. COWEE, Berlin, Ren. Co.*

TREATMENT OF INJURED MEADOWS.—We have had two dry seasons, especially last year, which, together with the ice of last winter, and our exceedingly dry spring, and perhaps the grub worm, have rendered our meadows almost worthless as compared with former years. Acres and acres of our low land, in patches here and there, are entirely killed out, while hundreds of acres are almost entirely destitute of Timothy or herds-grass, where formerly it has constituted a fair share of the crop. Our hay crop must consequently be very light again this season, except new seeded land which is some better. Now what can be done for these meadows to restore them to their former productiveness? Will harrowing in the fall, and sowing grass seed and rolling down restore those portions which have been plowed, or must we plow again. And what can be done for those lower portions which were never plowed. Will harrowing and sowing seed in the fall pay and what seeds will be best? An answer to these inquiries or any information upon these points will be thankfully received by at least one of the readers of your valuable paper. What is the best method of destroying white daisies? *G. A. H. Potsdam, St. Law. Co., N. Y.*

Will some of our experienced correspondents answer the above inquiries?

CLOVER HULLERS,—I see in the *Country Gentleman*, of 12th ult., an inquiry respecting clover hulling machines. The original inventor of the machine most in use in Central N. Y. lives in this place, and the machines manufactured at Waterloo, Lyons, &c., are of his plan. I am requested to say that any information respecting them, sizes, prices, &c., can be obtained by addressing J. V. Blackwell, Ovid, N. Y. He is the original patentee, and his machines are warranted to hill from 3 to 5 or even more bushels per hour, and can be driven by horse, water, or steam power.

All of the above manufacture I understand, do not construct machines to run by water power, but the best ones can be ascertained by inquiring as above *W. H. BREWER.*

APPLE DISEASE IN WESTERN PENNSYLVANIA.—The following extract from a letter of *THOMAS MATTESON*, of Keating, McKean Co., Pa., gives a description of the disease which affects the apple crop in that region, which is worthy the attention of pomologists and fruit cultivators generally:—“This disease has affected our fruit trees for five or six years—apples fall from the tree a little before the usual time. Winter fruit that has become diseased, quickly rots, and some lose nearly all the flavor and become insipid. Grafts set in the tops of large trees are soonest affected; and in all cases young and thrifty shoots are most liable to the disease. The leaves dry up, the ends of the limbs die, and the fruit is smaller than usual, and is subject to black spots.”

LIGHTNING RODS.—Can you or any of your subscribers inform me as to the best mode of fixing lightning rods, where the rock is within eighteen inches of the surface of the ground? Or whether it is necessary, to have more points than one on each rod? *A SUBSCRIBER.*

Most kinds of rock are poor conductors of electricity, and therefore it will be advisable to extend the rod sufficiently to enter a stream or body of water, or a permanently moist stratum, the facilities for doing which, our correspondent can only judge with the knowledge of local particulars.

It is better to have several points—not pointing to different parts of the sky, as is often seen, for direction has little to do in the matter,—but all as near together as a convenient form may require. By dividing the

charge, should any occur, each point is not so nearly filled with the fluid and consequently is not taxed so near the extent of its capacity. There will therefore be less danger of a single point being melted, as we have known to take place; and more probability that the whole charge, and not a part only will be carried off on the rod.

POTATO BUG—I wish through you to make inquiries which may, perhaps, (if satisfactorily answered) be a great benefit to many of your readers. What will destroy the potato bug, or prevent its ravages upon the Irish potato? We have in this country a small bug or fly about the size and very much like the fire-fly or lightning bug, striped on the back; that commences its destructive work about the first of June, and in a few days if left alone will trim the stalks perfectly bare of leaves. They come in perfect swarms, are very shy, can be brushed out of the patch, but return immediately. When mashed upon the skin they produce a blister as soon and as effectually as Cantharides. I have tried a strong decoction of tobacco, and of lime sprinkled upon the vine, but to no purpose. I never knew them in the North, and here only for a few years past.

What is the price of J. J. THOMAS' work on Farm Implements? [We can send it to you, post-paid, for \$1.—EDS] S. W. HAUGHTON.

A TROUBLESOME WEED.—Herewith I send a stalk of a weed, with which we are making a very disagreeable acquaintance in this vicinity. It thoroughly eradicates the cultivated grasses, and its roots take a strong hold. Some farms in this town are thoroughly overrun with it, and their owners inform me that plowing seems rather to increase the pest. I am not aware that any of our domestic animals eat it. The blossom is yellow with leaves about $\frac{1}{2}$ the size of St. Johnswort blossoms.

Can you inform your subscribers here what the weed is, and what course they shall adopt to rid their farms of it S. A. LAW.

We do not recognize the weed. Try what effect frequent mowings have on it. *Thorough cultivation* with corn for two years in succession, will probably eradicate it.

SOILING.—What is the best grass for high dry gravelly soil,—rye, clover, grass or turnips? Judge Buel said turnips would grow any where. We must have something to feed our stock on during the hot dry weather. What is best? E. PARKES. *Coffee Landing, Hardin Co., Tennessee.*

Our favorite crop of early autumn soiling, is corn sown in thick drills, three bushels per acre—as we have already described on various occasions. Clover does well on gravelly soil. Turnips will grow on almost any soil, provided it is *very rich*—on poor soils, the attempt is a waste of seed.

CIDER MILLS.—In answer to several inquiries, we would state that we are not sufficiently acquainted with the operations of these machines, to enable us to decide as to which is the best.

WENS ON CATTLE.—J. C. Wygant. In our last volume a correspondent states that he cured a wen the size of a hen's egg, on the upper jaw of a three year old steer, by extracting an ulcerated tooth, that was the cause of it. The wen disappeared in about four months after extracting the tooth. Another correspondent has cured very bad ones in six weeks by rubbing them with a mixture of fine salt and tar.

PRESERVING EGGS.—Will you inform me how long eggs will keep this warm weather when unprotected, and how long when protected. What is the best method of protecting or preserving them. Also what is the best method of packing them for transportation. G. Utica, N. Y.

Will some of our experienced correspondents answer the above.

Steam Plow and Steam Horse.

Our correspondent, Mr. S. W. JOHNSON, has furnished us a very interesting account of the Farm Implements and Machines on exhibition at the Show of the English Royal Ag. Society held at Carlisle in July, which has been published at length in the *COUNTRY GENTLEMAN*. From this account, we give the following extract, describing two machines entered for the \$1000 prize offered for an invention best adapted for cultivating by steam:

I believe but two instruments have been entered, that look like competitors for the \$1000 prize. One of these, *Usher's Steam Plow*, was to work on the principle of forcing a number of plowshares into the ground in such a manner that they should mostly propel the machine by their action in the soil, the plows themselves being worked by a steam engine, and arranged on a revolving drum or shaft. It is certainly a formidable looking engine, but don't deserve any special notice until it gets upon the trial ground. It only made a few rods progress yesterday, and at 3 P. M. to-day, had not got further though the steam was up. This without help of the plows which remain lifted from the ground. The engine is poorly constructed, or at least badly managed. On one occasion when attempting to get it out of the Implement Yard, the steam was apparently let on too suddenly, and one end reared up perceptibly from the ground, much to the amusement of the spectators.

The other Engine is not a steam plow, but simply a *Steam Horse*, that, it seems, can go up hill or down, on smooth or rough ground, and turn corners with ease, and draw any quantity of plows, &c., after it. It is called *Boydell's Steam Tractor*. It is a locomotive that carries its track attached to the wheels, and lays it down and takes it up of itself. The wheels are each armed with six shoes of 3 to 4 feet length, which are simply but ingeniously connected with the fellies in such a manner, that for a movement in the revolution of the wheel, it rests upon two of them, which are then both nearly in a right line and lying on the ground; the next instant, however, the wheel rolls upon the foremost of the two, and the hindmost is lifted. The shoes are made of stout plank 8 to 10 inches wide, and heavily armed with iron bands, and each has an iron rail on which the wheel runs. But it is difficult to describe this arrangement. Doubtless full descriptions and engravings will shortly be obtainable. The 'Tractor' remained on the trial ground last night, and what the judges will decide with regard to it is not yet known. It seems to involve a valuable principle, and excites vast interest. I did not see it in operation, but saw a one-horse cart with wheels rigged on the same plan, which was pretty heavily loaded with tiles and driven about, backed, and turned short, over ridged and recently plowed land, and its action was very good. I doubt if the load would have been nearly so easily drawn with a common cart. In crossing the dead furrows, the shoes in a manner bridged the hollow, not allowing the wheels to run so low as they must have done otherwise. I should mention that the shoes are notched at the ends, so that when laid flat, the end of one reaches by that of the other, thus after the wheel has run off one, the end of it outside the wheel is still a foot or more beyond a line let fall from the axletree. This cart is of course mainly intended for soft or plowed land, and doubtless it will not be long in becoming useful and used.

Notes for the Month.

THE WEATHER AND THE CROPS.—Last evening (Aug 5) this vicinity was visited with a heavy storm, but the week past has been dry and hot, favorable for corn, which is generally very late, and for harvesting the grain and hay. A large quantity has been gathered in during the week. The *twelve days rain* (July 18 to 30) has seriously damaged the quality of the wheat in western New York, northern Ohio, Michigan, and Canada West. We have visited several counties in western New York and taken samples of wheat from upwards of 30 different fields. The lowest number of *sprouted* grains in any field examined was *seven per cent*; the average of the thirty fields was *seventeen per cent*. One field in Seneca County, standing erect and bright, contained 27 per cent of sprouted grains. We believe that, on an average, *one-fifth* of the wheat in western New York is *sprouted*. Barley is a good crop and little injured by the rain. Oats are very heavy, and laid, but not materially damaged. Potatoes never looked better. In Livingston County we heard there were symptoms of the disease, but generally the tops and tubers are healthy. There will be more oats and potatoes harvested this year than ever before in this country. Much hay has been damaged, but taking the country through it is thought the rain has improved the growing grass, especially on old meadows, as much as it has injured that which was down.

A PROFITABLE ASPARAGUS BED.—It is well known that no vegetable yields more profit when properly cultivated than asparagus. Mr. A. E. BROWN of this city informs us that he sold this season from a bed 60 by 102 feet, or about *one seventh* of an acre, \$93.75 worth of asparagus, in addition to that consumed by his own and the gardener's family. Estimate this at \$6.25, and the produce is at the rate of *seven hundred dollars per acre*. Who can beat it?

Mr. BROWN's method of cultivation is very simple. About the first of July, after he has done cutting, the bed is *thoroughly hoed*, cutting up the weeds, asparagus and all. The rubbish is raked off, and the surface of the bed left clean and mellow. The asparagus soon springs up again, and at this time it is six feet high.

ALBANY CO. AG. SOCIETY.—The Prize List, together with rules, list of judges, town committees, &c., for the next Fair, has been published, and can be had of the Managers in the several towns, or at the office of the Secretary or office of this paper in this city. More than \$2,000, is offered in prizes, embracing thirty-two for Horses and Mules, varying from \$2 to \$10 each; one hundred and thirty-six for Cattle from \$2 to \$40 each; ninety for Sheep, Swine and Poultry, from \$1 to \$10 each; ninety-eight for Fruit, Vegetables, &c.; thirty for Butter, Cheese and articles for the table: nine for Flour; one hundred and three for household manufacturers; fifty-seven for Farm Implements; eleven for Harness and Farm Vehicles; twenty for Castings, Hardware, Jewelry, &c.; nine for Household furnishing articles; twelve for miscellaneous articles and four for horsemanship by ladies.

ONONDAGA CO. AG. SOCIETY.—This society, we are gratified to learn, has, by a stock subscription, succeeded in raising about \$10,000 for the purchase of suitable grounds for its annual exhibitions. An additional \$3,000 is pledged, toward the erection of the necessary buildings, fences, &c. The committee chosen for the purpose, have selected and purchased ten acres, at \$500 per acre, located just without the southern bounds of the city, in the town of Onondaga, and a mile and a half from the Central Railroad Depot. The site is a very convenient and accessible one,

and is estimated to be worth one-third more than the cost.

The Societies in Jefferson, Dutchess and Rensselaer, we believe, own their show grounds, and we hope the time is not far distant, when sufficient public spirit will be found to furnish all our County Societies with the ground and buildings necessary for their exhibitions.

AG. BOOKS AND PAPERS FOR PREMIUMS.—The Ohio State Ag. Society have resolved to award several hundred copies of the Ohio Farmer and Ohio Cultivator as premiums at their next exhibition. Many of the county Societies in the different states, include considerable numbers of agricultural periodicals in their prizes, and the Clinton Co., (N. Y.) Society, has adopted as a rule that one half of all its premiums shall be paid in books or papers—the books and papers to be selected by the persons to whom the awards are made—that is, where a prize of \$10 is awarded, \$5 will be paid in cash and \$5, in agricultural, horticultural or mechanical books, and since the above was written we have received the Prize List of the Brookfield Ag. Society, Madison Co., N. Y., whose Fair is to be held at the village of Clarkville on the 19th and 20th of Sept. Among the prizes offered by this town association, are 22 copies of the *Country Gentleman*, 85 of the *Cultivator*, and a considerable number of the *Rural New-Yorker*, *Genesee Farmer* and *Wool-Grower*.

CALIFORNIA HEMP.—We are greatly indebted to our friends of the *Sacramento State Journal* for a specimen of California Wild Hemp, said to grow in great abundance in Four Creeks Valley, Tulare Co., Cal. There are two samples, one bleached, the other in the raw state. The former is 4 feet long and the latter 4 feet 9 inches, measured in this office. They are somewhat coarse but very strong, and altogether a good specimen of the agricultural productions of the golden state. The plant appears to be known as the "wild cotton" or milk-weed." We should be glad to learn farther particulars. It is quite probable that as the *Journal* says, "hemp will soon form an important item" in the commerce of California.

OHIO STATE FAIR.—We have received from the secretary, Dr. SPRAGUE, a beautiful lithograph of the Ohio State Fair grounds near Columbus. It is an excellent representation of the grounds and surrounding scenery, creditable alike to the artist and the society. The fair will be held Sept. 18—21; much enthusiasm is manifested, throughout the state, and we expect such an exhibition as even Ohio has not made before.

DEVON HERD BOOK.—The 1st and 2d vol. of Davy's Devon Herd Book, can be had at this office—price \$1.00—sent by mail, post-paid, for \$1.20. Every breeder of Devons should have a copy of this work as it includes most of the Devons in this country as well as in England.

AG. ORATORS.—At the New-Hampshire State Fair, Prof. C. B. HADDOCK of Hanover—at New-York, Gov. WRIGHT of Indiana—at New-Jersey, Prof. J. A. PORTER of New-Haven—at Pennsylvania, Hon. FRED. WATTS—at Illinois, Hon. D. J. BAKER—at Maine, Prof. J. A. NASH, of Amherst.

The American Farmer for August, in speaking of the extent of its circulation, includes the majority of the Union, from "New Hampshire, Vermont and New-York," "to Oregon and California," and adds:—"If the **COUNTRY GENTLEMAN** goes any wider than that, we give him over to King Alexander and the Sandwichers."

We are happy to say that we are already in possession of the field, having been on duty there, in a sort of missionary way, for several years past, and one subscriber in East Maui now taking four copies of our weekly and twice that number of *The Cultivator*. In

one territory, farther off than Oregon, so far as the means of getting to it are concerned, of which our amiable cotemporary does not seem to have heard, *Washington*, we have also a goodly number, to which the last steamer brought quite an addition. And in the other direction,—not to speak of *Maine*, which he does not include, and where we have a very considerable constituency—all through Nova Scotia, New Brunswick and both the Canadas, we can count the names on our books by hundreds. Is this "wide" enough to justify our claims?

Agricultural Exhibitions.

NEW-HAMPSHIRE.—The State Fair is to be held at Manchester on the 12th, 13th and 14th of Sept. J. O. ADAMS, Sec'y. Manchester.

VERMONT.—State Fair at Rutland, on the 11th, 12th and 13th Sept. A meeting of the Directors was held at Rutland, recently, when the preliminary arrangements were all satisfactorily completed, and inducements are offered for a more extended exhibition than has been held since the organization of the Society. F. HOLBROOK, Brattleboro, Pres't—J. A. BECKWITH, Middlebury, Cor. Sec'y.

RHODE-ISLAND.—The R. I. Society for the Encouragement of Domestic Industry, will hold an exhibition of Live Stock, at Providence, commencing Sept. 11, and to continue through the week. The Premiums are liberal, amounting to \$4,000, and are open to the *United States and the British Provinces*, and arrangements are being made with rail road companies in New-York and New-England, to carry passengers and animals to the exhibition at reduced rates. J. J. COOKE, Pres't—C. T. KEITH, Sec'y. Providence.

NEW-YORK.—The annual exhibition for this year, is to be held, for the first time, on the line of the Erie Rail Road, at Elmira, Oct. 2, 3, 4 and 5. Beautiful grounds have been selected, and the work of preparation has already been commenced in good earnest. "The very best spirit," says the Journal of the Society for Aug., "prevails at Elmira, and in the whole southern and western part of the State and in Pennsylvania, and the prospects for the Fair are in the highest degree encouraging. All our best breeders of stock will be represented, and the display in the implement and mechanical department promises to be one of unusual excellence. The spirit which has been aroused in the ladies' department gives assurance that the competition will be greater than at any previous Fair." SAMUEL CHEEVER, Pres't, Mechanicsville—B. P. JOHNSON, Cor. Sec'y, Albany.

AMERICAN INSTITUTE.—The next exhibition of this association is to be held at the Crystal Palace, New-York, commencing on the 3d of Oct., and to continue through the month. Their usual cattle show is to be omitted this year.

PENNSYLVANIA.—The exhibition of the State Ag. Society will be held at Harrisburgh, on the 25th, 26th, 27th and 28th Sept. This Society makes the field of competition co-extensive with the United States, and cordially invites the citizens of other states to compete for its prizes. JAMES GOWEN, Pres't—A. L. ELWYN, Cor. Sec'y—both Philadelphia P. O.

VIRGINIA.—State Fair to be held at Richmond, Oct 30, 31, and Nov 1 and 2. Among the premiums offered by this Society, are a great number for experiments and discoveries—among them is one of *one thousand dollars*, "for the discovery of some efficient and available remedy, such as may be judiciously used by farmers, to secure the wheat crop against the ravages of the joint worm."

OHIO.—The State exhibition is to be held at Columbus, Sept. 18, 19, 20, and 21, and a better show than ever before is anticipated. JAS. T. WORTHINGTON, Chillicothe, Pres't—G. SPRAGUE, Columbus, Cor. Sec'y.

ILLINOIS.—Great preparations are making for the State Fair to be held at Chicago, Oct. 9, 10, 11, and

12. H. C. JOHNS, Decatur, Pres't—J. A. KENNICOTT, West Northfield, Cor. Sec'y.

CONNECTICUT.—at Hartford, Oct. 9—11.

NEW-JERSEY.—at Camden, Sept 18—21

MARYLAND.—at Baltimore, Oct. 29—31.

INDIANA.—at Indianapolis, Oct. 17—19.

MICHIGAN.—at Detroit, Oct. 2—5.

Canada East.—at Sherbrooke, Sept. 11—14

Canada West.—at Cobourg, Oct. 9—13.

IOWA.—at Fairfield, Oct. 10—13.

KENTUCKY.—at Paris, Sept. 25—28.

NORTH CAROLINA.—at Raleigh, Oct. 16—18.

GEORGIA.—at Atlanta, Sept. 10—14.

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50 THOUSAND GRAFTED APPLE TREES, of the best varieties, from 5 to 7 feet high, at \$80 per thousand, very thrifty and unsurpassed.

60,000 One year old Apples, of different varieties, of vigorous growth.

Also, Apple Seedlings, one and two years old—Cherry do., very fine—all of which I will sell for cash or approved credit with interest, on favorable terms.

The ACTUAL COST of Packing will be charged in all cases.

JAMES M. TAYLOR,
Aug. 23—wtf Commercial Nurseries, Syracuse, N. Y.

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And all others Interested in Agriculture, Horticulture, &c.

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BY DAVID A. WELLS, A. M.,

Member of the Boston Society of Natural History, formerly Chemist to the Ohio State Board of Agriculture; Editor of the Annual of Scientific Discovery, Familiar Science, &c &c.

It is evident that a publication of this character, giving a complete and condensed view of the Progress of every Department of Agricultural Science, free from technical and unnecessarily scientific descriptions, and systematically arranged so as to present at one view all recent Agricultural Facts, Discoveries, Theories and Applications, must be a most acceptable volume to every one interested in the Cultivation of the Soil, or the Diffusion of Useful Knowledge.

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BEAUTIFULLY COLORED ENGRAVINGS.

Although the publication of this work will be attended with very heavy expenses, it will be issued at the low price of \$1.50, thereby enabling every FARMER and PLANTER to possess a copy.

On receipt of the published price, it will be sent free per mail, to any part of the United States. As the sale will be very large, all orders should be sent in immediately.

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Aug. 23—wlmnt

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Embellished with more than ONE HUNDRED Engravings.

Price—In Paper Covers, 25 Cents—Bound, 50 Cents.

THE large circulation accorded to the first number of this work, (for 1855,) and the commendation it has received from all quarters, have encouraged the publisher to increased effort to make No. II, for 1856, an improvement, if possible, on its predecessor.

THE REGISTER will be issued about the first of October, and will contain Calendar Tables and Astronomical Calculations similar to those in the previous issue—calculated for the Meridians of Boston, New-York and Baltimore.

The body of the work will comprise as large a variety of subjects and be illustrated even more beautifully. It will continue the treatment of

COUNTRY DWELLINGS,
Illustrating the subject with a number of NEW, ORIGINAL, AND VERY VALUABLE DESIGNS, and a large number of Engravings. The copy for this department has been prepared with great care, illustrated at a large expense, and will be invaluable to every resident in the country.

This will be followed by a chapter on

FARM BUILDINGS,

Including a variety of ORIGINAL PLANS FOR BARNs, CARRIAGE HOUSES, &c. To this subject, as well as the preceding, much time and labor has been devoted. The chapter on

FARM IMPLEMENTS

Will be one of much interest, and will be treated more at length than in the present year's issue. The progress of improvement and invention, renders it necessary that the Farmer should keep himself well posted in this respect.

LISTS OF FRUITS,

Descriptions of different kinds, and a further consideration of their growth and culture, will make the ANNUAL REGISTER for 1856 a desideratum for all who have a spot of ground de-

This rough abstract of the Contents of the forthcoming number of the ILLUSTRATED ANNUAL REGISTER, will give an idea of the extent and variety of the ground it covers, and to those who have seen this year's, it will be necessary to add nothing more in regard to its value, than to say that it is from the experienced and careful pen of Mr. JOHN J. THOMAS.

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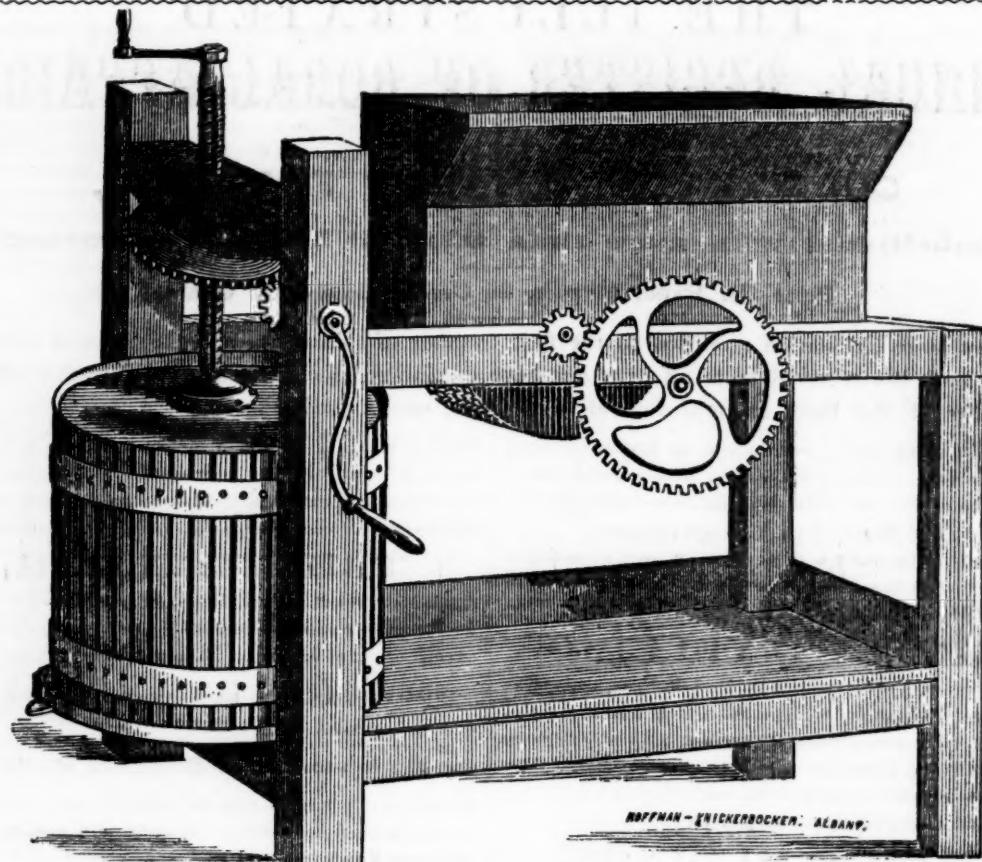
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The extensive circulation of the REGISTER, and the interest of its contents, which makes them the subject of constant reference, as well as careful preservation, render it the best advertising medium with which we are acquainted. The circulation of the issue of 1855, has been upwards of 20,000, and that for 1856 will probably *more than double this number*. Dealers in Seeds, Implements, &c., Nurserymen, Publishers, and all who would bring their business before the most enlightened class of our Rural Population, from Halifax to the Pacific Coast, will find the REGISTER to offer very superior facilities, at a reasonable price.

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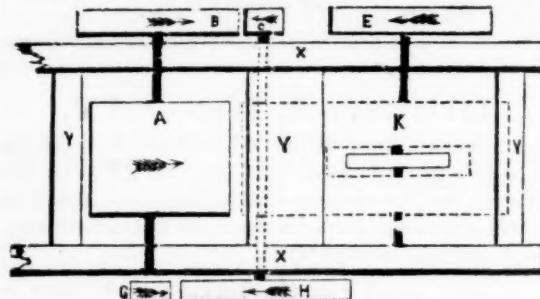
LUTHER TUCKER,

Albany, N. Y.



EMERY'S CIDER MILL AND PRESS,

THE above cut represents the Mill and Press complete. The diagrams annexed represent in outline, the several parts and their manner of operation. The same letters refer to the same parts in each diagram.

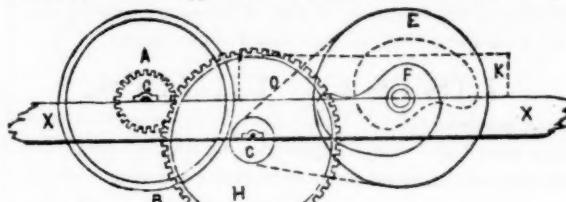


A—Grating cylinder, about 11 inches in diameter and 7 long
 B—Band pulley of iron, used when driven by Power, answering also for fly-wheel on shaft of cylinder A.
 G—Small speed gear on cylinder shaft, for driving it when worked by hand.
 C—Small pulley on crank shaft which drives pulley and cam.
 E—Large pulley driven by C, moving cam F.
 F—Cam for driving feeding piston K, in bottom of hopper.
 H—Large speed gear wheel on crank shaft, working into pinion G to drive cylinder when worked by hand.
 K—Piston shown by dotted lines operated by cam F, in its O—Band connecting feed-pulleys.
 center, and serves to press forward apples against the grating cylinder.
 XX—Top girts or supporting plates of mill.
 YYY—Cross girts between plates.

Among the advantages of this mill are the following:—This piston action in feeding apples or other substances, avoids all choking and clogging of cylinder or its teeth—the cam is so constructed as to make a uniform progression in its whole motion, and allowing the piston to recede by means of a spring action instantly—and the progressing motion of piston occupying more than 9-10ths of its whole revolution, and the backing of piston less than 1-10th. The feeding motion is obtained by means of a small band driven from a pulley C, on crank shaft to large pulley E, on cam shaft. Thus, while it makes a sure and steady feeding, the band by an adjusting pulley is made sufficiently tight to do the work,

and yet sufficiently loose to slip and stop feeding, if any foreign substance like stones or iron gets into the mill, and thereby avoids breakage and repairs—a desideratum never before obtained in a portable cider mill. It can be readily worked by hand by one or two men, as it is provided with two crank handles, one at each end of the crank shaft.

The Press is constructed with an iron stress beam, above and below—the upper beam formed into an inverted "step"



in which the nut moves. The nut, as shown in the figure, is formed by cutting a screw thread in the hub of a strong bevel wheel which is about 20 inches in diameter. The pressure screw is 2 inches in diameter, and a slot cut its whole length, and a corresponding slot in the upper beam. Into this slot a loosely fitted steel key is placed, fitting both screw and beam: thus, while it does not prevent the screw moving endways, it prevents it from revolving with the nut. The nut is moved by means of the bevel gear on its outer under edge, and a bevel pinion working into it. This pinion is moved by a crank or a ratchet lever, similar to the action of the handle of an ordinary pump in raising water.

While this is of greater capacity than any other portable press, it is capable of withstanding three times the stress of any before offered the farmers of this country. The capacity of the grater is in proportion to the power, and the size of the feed pulley used on cam shaft—thereby accommodating itself to any farmer's notion—grating fine as meal, or coarser, as circumstances require. Its weight is about three hundred pounds. Price \$45—and Warranted.

Manufactured this season exclusively at the Albany Agricultural Works, by EMERY BROTHERS, Proprietors.

P. S. Also on hand, Hickok's Cider Mill, for sale at Manufacturer's price—\$10.

C. M. SAXTON & CO.

152 Fulton Street, New-York,

PUBLISH the following
BOOKS FOR THE COUNTRY.

Sent Free of Postage to any part of the United States.

- 1 Browne's American Field Book of Manures, \$1 25.
- 2 Browne's American Poultry Yard, twenty-sixth thousand, \$1 00.
- 3 Browne's American Bird Fancier, cloth, 50 cts.
- 4 Dadd's American Cattle-doctor, cloth, \$1 00.
- 5 Dana's Muck Manual, cloth, \$1 00
- 6 Dana's Prize Essay on Manures, 25 cts.
- 7 Stockhardt's Chemical Field Lectures, \$1 00
- 8 Blake's Farmer at Home, \$1 25.
- 9 Bust's American Flower Garden Directory, \$1 25.
- 10 Bust's Family Kitchen Gardener, 75 cts.
- 11 Norton's Elements of Scientific and Practical Agriculture, 60 cts.
- 12 Johnson's Catechism of Agricultural Chemistry, for Schools, 25 cts.
- 13 Johnston's Elements of Agricultural Chemistry and Geology, \$1 00.
- 14 Johnston's Lectures on Agricultural Chemistry and Geology, \$1 25.
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- 17 Fessenden's American Kitchen Gardener, 25 cts.; cloth, 50 cts.
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- 48 Wilson on the Cultivation of Flax, 25 cts.
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- 50 Quincy's My-teries of Bee keeping, \$1 00.
- 51 Cottage and Farm Bee-keeper, 50 cts.
- 52 Elliott's American Fruit-grower's Guide, \$1 25.
- 53 The American Florist's Guide, 75 cts.
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- 55 The American Rose Culturist, paper, 25 cts.; cloth, 50 cts.
- 56 Hoare on the Cultivation of the Vine, 50 cts.
- 57 Chorlton's Cold Grapery, from direct American Practice, 50 cts.
- 58 Saxton's Rural Hand Books, 2 vols., \$2 50.
- 59 Bement's Rabbit Fancier, 50 cts.
- 60 Rumelin's Vinedressers Manual, 60 cts.
- 61 Neil's Fruit, Flower and Vegetable Gardeners' Companion, \$1 00.

Aug 23—w1mt

P. D. GATES,

COMMISSION MERCHANT, and dealer in *Agricultural Implements and Machinery*, No. 12 BROADWAY, NEW-YORK.

Ketchum's Mowing Machines, Hay Presses, Horse Hoes, Cultivators, Plows, Straw Cutters, Corn Shellers, Reapers, Horse Powers and Threshers, Combined Thresher and Winnowers, and other Agricultural Machines.

May 24—m12t*

TO HOP GROWERS.

THE BEST PAPER

You can take, for Foreign and Domestic Hop Markets, and information in regard to Hops generally, is the *Freeman's Journal*, Cooperstown, Otsego County, N. Y. Otsego is the great hop-growing district of this country. Terms, \$1 50 for one year; \$1 00 for 8 months

G. M. SHAW,
Proprietor.

FAIRBANKS' SCALES.

Warehouse No. 189 Broadway, N. Y.

THESE celebrated scales are still manufactured by the original inventors. By an enlargement of their works, and an introduction of improved machinery, these scales are now furnished at greatly reduced prices. We have recently added to our stock a full assortment of fine Gold and Druggists' Scales, Spring Balances, Patent Beams, Weights &c. and now offer at wholesale and retail the most complete assortment of weighing apparatus to be found in the United States. We have a new and convenient article which we denominate the "FAMILY SCALE," it being particularly adapted to the wants of farmers and all housekeepers.

Hay and coal scales set in any part of the country by experienced workmen. Orders and letters of inquiry by mail will receive prompt attention FAIRBANKS & CO.

July 12—w&m3ns 189 Broadway, New York.

DOMESTIC ANIMALS

AT PRIVATE SALE.

L. G. MORRIS' ILLUSTRATED CATALOGUE, with prices attached, of Short Horned and Devon Bulls and Bull Calves, a few Horses, South Down Rams, Berkshire, Suffolk and Essex Swine, will be forwarded by mail (if desired) by addressing L. G. MORRIS, Fordham, Westchester Co., N. Y., or N. J. BECAR, 187 Broadway, New York. It also contains portrait, pedigree, and performances on the turf of the celebrated horse "Monarch," standing this season at the Herdsdale Farm.

May 3, 1855—w&m1f

Virginia Land for Sale.

THE subscriber having yet a few Farms for sale from his large and valuable tract of land situated in the county of Fairfax, Virginia, on and near the Turnpike leading from Washington and Georgetown to Leesburgh, 16 miles from the city of Washington, two miles from the Canal, and within 3 miles of the Alexandria, Loudon and Hampshire Rail Road. The soil is of the first quality, of a deep red color, seldom affected by droughts to which most lands are subject. Adapted to grain, plaster, clover, and all kinds of grass. The land will be sold in lots of 100 or 200 acres, or as the purchaser may desire. Every Farm will be well supplied with wood, which consists of oak, chestnut and second growth of pines. Persons wishing to purchase would do well to call and examine before purchasing elsewhere. For further particulars, inquire of the subscriber on the premises.

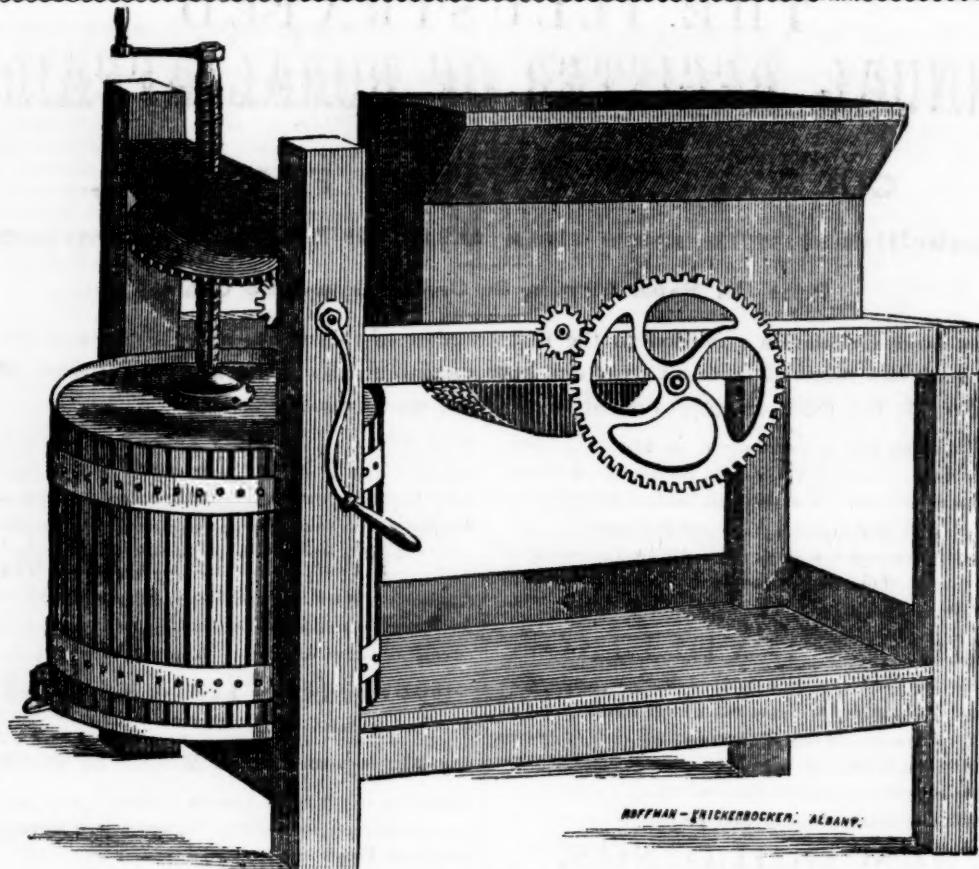
S. S. MILLER,
Spring-Vale, Fairfax Co., Va.

FARM FOR SALE.

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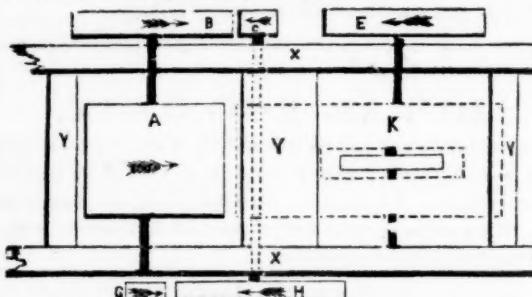
It has upon it a good Dwelling House and out Buildings—is in a good neighborhood, convenient to churches, school houses and stores, and is in every respect one of the most desirable locations in the state. For terms which will be made easy, apply to GASPER & CO., 41 Water St., New York; Caleb Gasper, Esq., Mareelius, Onondaga Co., Geo. Young, Esq., Milo Center; Elias Bently, Esq., Sandy Creek, Oswego Co.; S. Booth, Esq., Branchport, Yates Co.; Norman Seymour, Mechanicville, Saratoga Co., N. Y.; Judge Ellsworth, Penn Yan.

March 1—m1f—



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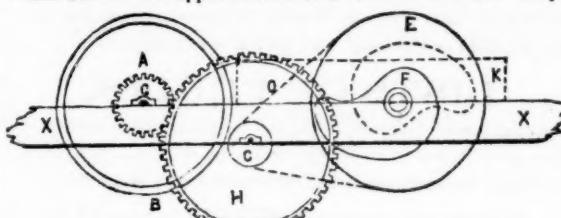


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Aug 23—w&m1t

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Hay and coal scales set in any part of the country by experienced workmen. Orders and letters of inquiry by mail will receive prompt attention FAIRBANKS & Co.

July 12—w&m3ms 189 Broadway, New York.

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S. S. MILLER,
Aug. 1—m5t Spring-Vale, Fairfax Co., Va.

FARM FOR SALE.

A FARM of One Hundred acres in MILO CENTER, Yates Co., N. Y. a short distance from the line of the Canandaigua and Elmira Rail Road. It is well watered by springs and a fine stream, easily cultivated—soil a fine gravelly loam, unsurpassed for either grain or grass, with exception of about 20 acres which is choice natural meadow land.

It has upon it a good Dwelling House and out Buildings—is in a good neighborhood, convenient to churches, school houses and stores, and is in every respect one of the most desirable locations in the state. For terms which will be made easy, apply to GASPER & Co., 41 Water St., New York; Caleb Gasper, Esq., Maceellus, Onondaga Co., Geo. Young, Esq., Milo Center, Elias Bently, Esq., Sandy Creek, Oswego Co., S. Booth, Esq., Branchport, Yates Co., Norman Seymour, Mechanicsville, Saratoga Co., N. Y., Judge Ellsworth, Pen Yan.

March 1—m1f—

Hay Presses, Hay Presses.

DEDERICK'S PORTABLE PARALLEL LEVER HORIZONTAL AND VERTICAL HAY PRESSES.

THESE Presses are so constructed that they can be taken apart at the manufactory, and (by the printed directions accompanying each press) put together again in a couple of hours by any two farmers, without the aid of a mechanic. They are so conveniently portable that they can be moved from one field or farm to another, as a sleigh is moved, by a pair of horses or oxen, and for convenience and power of operation they are altogether unequalled. They are now being shipped to all parts of the country, and are in every instance giving the most decided satisfaction. With two men and a boy to attend the horse, one of these machines will bale from 6 to 8 tons of hay per day, according to the No. or size of the press. Prices, from \$130 to \$175. For circular, with full description, apply personally or by mail to the subscribers.

DEERING & DICKSON,
Premium Agricultural Works,
Albany, N. Y.

May 10—w&m&mf

DE BURG'S NO. 1

Ammoniated Super-Phosphate of Lime.

THE above valuable compound is warranted pure and genuine. The manufacturing department is under the personal direction of the subscriber, and will have studious attention as to his preparation at all times being uniform in its component parts. Many experiments during the past year, with the above brand, in equal quantity with Peruvian Guano and other concentrated Fertilizers, scrupulously testing its value as compared with the latter, by various State Fairs, public Agricultural Committees, &c., have been made, showing a preference for it as a manure, both as to early inducement and prolificness of growth. Pamphlets will be sent on application to the subscriber, containing full directions for use, &c.

C. B. DE BURG,
Sole Proprietor and Manufacturer,
Williamsburg, L. I.

June 14—w&m&mf.

TA-FEU.

A NEW FERTILIZER, manufactured from night-soil, which, after being screened, dried and disinfected, is raised to a certain standard by the addition of salts of ammonia. It is warranted to be composed of nothing but night-soil and the aforesaid salts of ammonia, as the chemicals used for disinfection add neither bulk nor weight to the composition. It is the intention of the LODI MANUFACTURING CO., who alone possess the right to this discovery, to make an article which can always be relied upon as pure and of a certain strength. It will be sold wholesale and retail, at \$35 per ton of 2000 lbs., without charge for barrels or cartage, instead of which no fare will be allowed. A circular, containing testimonials of those who used an article something like, but much inferior in strength, made by us last season, will be forwarded by mail on application to the subscribers or their agents. Address

THE LODI MANUFACTURING COMPANY
No. 60 Courtland street,
New York.

May 31—w&m&mf

Maclura or Osage Orange Hedges.

H. W. PITKIN,

Manchester, Conn., Dealer in Seeds and Plants

IN consequence of the increasing demand for this remarkable Hedge plant, my exclusive attention is now given to the business. Seed is yearly gathered by my own agents, and may be relied upon as fresh and genuine. As many persons prefer the plants ready for setting in hedges, I have established nurseries in different sections of the country, where they are raised on an extensive scale, and in the most economical manner, and am ready to contract them in any quantity. A descriptive pamphlet on the Culture of Osage Orange Hedges, given to purchasers.

G. G. SHEPPARD, New-York—P. B. MINGLE, Philadelphia—BYRAM, PITKIN & CO., Louisville, Ky., wholesale Agents. Apply as above.

April 5—w&m&mf

BLACK HAWK.

THE original VERMONT BLACK HAWK will serve a limited number of mares the coming season at \$100 each. Gentlemen wishing to secure the services of this horse, must send in their letters at once.

Good pasturing at 50 cents per week. All accidents and escapes at the risk of the owner. DAVID HILL,
March 1, 1855—m&mf

Bridport, Addison Co., Vt.

Farm Lands for Sale,

IN LOTS TO SUIT PURCHASERS.

OVER 2,000,000 OF ACRES of Selected Prairie Farm Lands, belonging to the Illinois Central Railroad Company. The price will vary from \$5 to 25, according to quality, location, &c. The purchase money may be payable in five equal installments, the first to come due in two years from date of contract, the others annually thereafter—giving six years to pay for the land, with a charge of only Two per cent per annum interest. The first two years' interest payable in advance. The Company's construction bonds received as cash. Apply to

CHAS. M. DUPUY, Jr.,
Land Agent Ill. Cen. R. R. Co.
No. 84 Lake St., Chicago, Ill.

March 15—m&mf



Excelsior Agricultural Works.

Warehouse and Seed Store,
No. 369 and 371 Broadway, Albany, N. Y.

THE subscriber is prepared to furnish to order a full assortment of Farm Implements and Machines, adapted to all sections of the country both north and south, among which may be found

The Excelsior Changeable R. R. Horse Power.

" " Threshing Machines with Separators.

" " Cider Mill, Krauser's Patent.

Mowing and Reaping Machines, Grist Mills, Corn Shellers and Clover Hullers; Circular and Cross-cut saw mills adapted to the Horse Power, for cutting fire wood, fence stuff &c.

The list of Field and Garden Seeds is complete—embracing most of the Premium Grants on exhibition at the recent winter Show of the New York State Agricultural Soc. Among them is the Magnum-bonum Wheat, which is highly spoken of and apparently of great merit. Also a general assortment of Fertilizers.

RICH'D. H. PEASE.

ENGLISH CATTLE,

Imported on commission by MESSRS. THOS. BETTS BROS.,
Bishop's Stratford, Herts, England—81 Maiden Lane,
New York City.

BING much the cheapest and the only way of obtaining Stock direct from the Breeder, which will give gentlemen an opportunity of obtaining the best stock, without having to pay an exorbitant price for them in America. The firm having had forty years' experience, they feel confident of giving satisfaction both as regards price and selecting the stock from the best herds in England.

Thorough-bred Horses, Hampshire Sheep,
Short-Haired Cattle, Cotswold, Leicester do
Devons, Herefords, Ayrshires, Suffolk Pigs,
Alderney Cows from Islands Essex, Berkshire do
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